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A CASE OF LEUCOCYTHÆMIA IN A CHILD.

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AND

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G. R., aged seven years and eleven months, brought to the out-patient room of the Sick Children's Hospital, on December 16, 1889.

Complaints: Enlarged glands in neck, susceptibility to catching cold, weakness, lassitude, and pain after eating.

Family history: None of any importance elicited. Father, mother, and five sisters all healthy.

Previous health: Severe eczema soon after birth, which lasted for eighteen months; with this exception, has been tolerably strong and healthy. No infectious disease until eighteen months ago, when he had an attack of diphtheria, lasting six weeks. About a year ago had "bronchitis and inflammation of the lungs," from which he recovered perfectly. For more than six months has had scabies all over the body (practically untreated), which may account to some extent for some of the glandular enlargement. Three months ago seemed quite well, and about that time walked ten miles in one day without being overtired.

Present illness: About two months ago his mother noticed that he was paler than usual, that he had no energy, and that his appetite was poor and capricious; also, that he frequently complained of abdominal pain. He has become steadily weaker since then. One month ago he walked five miles, but was extremely tired after doing so. Three weeks ago the enlarged cervical glands were noticed for the first time, after a bad cold. He has had no hæmorrhages.

Examination. (December 26, 1889.)—Rather a small boy for his age (weight three stone thirteen and a half pounds), very pale, yellowish, waxy complexion. Marked swelling in front of each ear, and noticeable fulness of lymphatic glands on both sides of the neck and below the lower jaw. Constant short cough. Temperature (axilla) 99.8°.

Lips and gums very pale. Teeth large and good, except molars, which are carious. Tongue pale, flabby, moist, with prominent fungiform papillæ. Tonsils pale, moderately enlarged.

Appetite very poor, and capricious; constant thirst. Frequent discomfort and giddiness after food; occasional vomiting. Bowels regular.

Abdomen: Inspection (Fig. 1): Very full and distended, especially in the hepatic region. Palpation: Soft liver-edge felt distinctly about two and three-quarter inches below costal margin, in right nipple-line. In the left hypochondrium a hard body is felt coming out from below the ribs. It seems continuous with the liver, but its edge is much harder. It reaches one and a half inches below the edge of the ribs, in the left nipple-line. (When the abdominal distention subsided a little, this was found to be the enlarged spleen.) Extending downward from the left hypochondrium, a large, oblong, solid mass is felt: the lower end

FIG. 1.

is rounded and superficial, and extends fully an inch below the anterior superior spine, while the upper end is deeply situated, and cannot be touched by the hand. (It was found afterward that this tumor did not move with respiration; and it turned out, post-mortem, to be the left kidney.) No enlarged glands felt; no ascites. Percussion (Fig. 2): Liver dulness begins above at the upper margin of the fifth rib in the right nipple-line, becomes absolute at the sixth rib, and extends down about seven inches, to two and three-quarter inches below the costal margin.

Lymphatic glands: Almost all those which can be felt are more or less enlarged. They are soft, separate, and painless. Those in the parotid region form a prominent tumor on each side of the face, like half a small Tangerine orange. Several of the submaxillary lymphatic

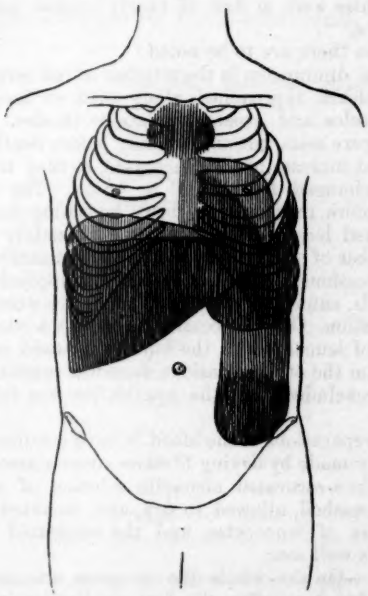
glands on each side are enlarged to the size of a hazel-nut. The sub-occipital, mastoid, supra-hyoid, superior cervical, and both sets of deep cervical glands, are enlarged, varying in size from that of a pea to that of a large bean. Those in both axillæ are large, and the right supra-condyloid is the size of a large pea. There are also numerous large glands in both inguinal regions.

Blood: Hæmocytes, 2,500,000; tolerably normal in appearance. Leucocytes, 125,000; hæmoglobin, 40 per cent. (*v. sub.*)

Heart: No subjective symptoms. Apex-beat in fifth space half an inch outside the left nipple-line. First sound very weak at apex. In pulmonary and auricular areas first sound is replaced by a soft, blowing murmur when the child is sitting up. "Bruit de diable" at root of neck. Pulse 128, weak, but regular.

Thyroid gland not enlarged. Thymus: Over the manubrium sterni there is a large patch of dulness, which reaches down below the junction of the second costal cartilages, and for more than an inch on each side. (Fig. 2.)

FIG. 2.



Lungs: A few rhonchi at bases; otherwise normal. Urine pale acid, low specific gravity, no albumin, no sugar.

Fundus oculi: Arteries small and pale, veins large and flat, no hæmorrhage, discs normal.

THE TREATMENT aimed at was the administration of arsenic, in as large doses as possible. Fowler's solution was given in doses of from ♏j to ♏v, but had always to be stopped after a few days, owing to the repugnance to food, vomiting, and diarrhœa, which it invariably produced. Iron (ferrum redactum) was also tried repeatedly with similar

bad result. Faradism was applied to the abdomen on several occasions. The first few applications were certainly followed by improvement in the general condition, but latterly no effect was produced.

Progress. (A) *The Blood* (by Dr. Muir).—At first (January 3d) the red corpuscles showed comparatively little change in appearance. They varied in size more than usual (6 to 8.5 μ), but they formed rouleaux well, and few were of irregular shape. The white corpuscles were seen in great numbers between the rouleaux. They varied greatly in size (6 to 11.5 μ), but by far the greater number were 6 to 8 μ—*i. e.* the increase was chiefly of the small variety of leucocyte. They were quite circular, and practically all were finely granular. In stained preparations it was found that nearly all the leucocytes were of the small uninucleated variety, the proportion of multinucleated leucocytes, which in normal conditions are more abundant than the former, being very small. These uninucleated corpuscles varied considerably in size, and the single nucleus generally showed no structure beyond a finely granular appearance, with faint markings, and in some it was slightly indented at one side. Eosinophile cells were seen, but they were very few in number.

The blood-plates were at first of nearly normal number, and of the usual appearance.

In the progress there are to be noted:

(1) A gradual diminution in the number of red corpuscles, which was more rapid as death approached, along with an increased number of irregular corpuscles and greater variations in size. A few nucleated red corpuscles were seen, but only shortly before death.

(2) A gradual increase of the leucocytes, so that their proportion to red corpuscles changed from 1 : 20 to 1 : 25. The uninucleated corpuscles varied more in size, large forms becoming more abundant, and the multinucleated leucocytes became proportionately still fewer.

(3) The number of the blood-plates rapidly diminished.

On several occasions, when faradization was applied to the spleen and lymphatic glands, enumerations of the leucocytes were made before and after the application. On one occasion there was a considerable increase in the number of leucocytes in the blood afterward, on another a slight increase, whilst on the other occasions there was practically no alteration. We therefore concluded that the application was followed by no constant change.

Permanent preparations of the blood in such conditions can be rapidly and conveniently made by drying films on cover-glasses, and staining for thirty seconds in a saturated alcoholic solution of methyl-blue. The films are then washed, allowed to dry, and mounted in balsam. The different varieties of leucocytes, and the nucleated red corpuscles, if present, are thus well seen.

(B) *General.*—On the whole the progress was steadily downward, although for a few days after the first application of the faradic current (January 7th) there was considerable subjective improvement. The glandular enlargements varied a good deal, being some weeks much more marked than others. During the last few days of life the glands were noticeably smaller than before (the photograph from which Fig. 1 is copied was taken two days before death). The left kidney also *seemed* to change considerably in size, becoming, so far as could be felt, about an inch shorter, and then enlarging again. The spleen steadily increased in size, and extended before death at least an inch further down than it did when first seen. The temperature was irregular. During the first

fortnight of treatment it was nearly normal in the morning, and from 101.5° to 103° in the evening. Later on, it was frequently subnormal early in the day, and usually from 99° to 101° in the evening. Several hæmorrhages occurred. On December 27th there was severe epistaxis, and on February 2d a slighter attack of a similar nature. On February 3d there was oozing from the gums. Two days before death numerous hæmorrhages were found in both retinæ, along with optic neuritis in the right eye. On December 29th a patch of dulness and crepitation was discovered in the right scapular region, but, with this exception, there were no objective lung-signs. During the last weeks there was considerable distress caused by nasal obstruction, which became almost complete. The tonsils also enlarged somewhat, but not very greatly. The urine continued free from albumin, but, toward the end, contained large quantities of colorless elliptical uric-acid crystals.

On the morning of February 13th the patient became suddenly extremely breathless, although air was freely entering all parts of the lungs. He died in the afternoon of the same day.

ENUMERATION OF BLOOD-CORPUSCLES.

Date.	Hæmocytes.	Leucocytes.	Blood-plates.	Proportion of white to red corpuscles.
December 26th	2,500,000	125,000	. . .	1 : 20
" 30th	2,560,000	93,000	194,000	1 : 26.5
January 3d	2,245,000	112,000	252,000	1 : 20
" 7th	2,260,000	229,000	230,000	1 : 9 8
" 12th	2,145,000	241,000	224,000	1 : 8.8
" 14th	2,170,000	226,000	222,000	1 : 9.6
" 17th	2,085,000	209,000	192,000	1 : 9 9
" 23d	2,031,000	219,000	. . .	1 : 9.2
" 27th	1,992,000	247,000	72,000	1 : 8
" 30th	1,686,360	214,000	19,000	1 : 7.8
February 3d	1,181,250	222,000	7,300	1 : 5.3
" 6th	1,150,000	342,000	19,000	1 : 3.3
" 9th	902,500	379,000	13,000	1 : .3
" 12th	721,250	283,000	7,000	1 : 2.5

POST-MORTEM EXAMINATION (twenty-two hours after death).—*Abdomen:* The liver is much enlarged, pale in color, flabby in consistence, apparently fatty on section. There are several minute subserous hæmorrhages in its peritoneal covering. The gall-bladder is moderately distended with pale-green bile. The spleen is much smaller than it was during life, its anterior extremity only reaching forward as far as the anterior axillary line, and its lower border being one inch below the costal margin in the mid-axillary line. Weight, 11 ounces. Size, 6 by 4 by 1½ inches. Capsule smooth, no hæmorrhages. Not very pale in color, consistence rather soft. On section, surface pretty uniform, rather pale; Malpighian

bodies not prominent; trabecular tissue apparently not increased. No infarcts.

The left kidney is seen at once on opening the abdomen, as a large oblong body, occupying the left lumbar and upper iliac regions, and displacing the spleen upward. It is crossed about the middle by the descending colon. On removal it is found to weigh 16½ ounces, and to measure 7 by 3½ by 2½ inches. The capsule is somewhat adherent, the surface extremely pale, mottled, and yellowish. On section the medulla is of a pale reddish cream-color. The cortex is comparatively enlarged, pale yellow in color, and presents numerous little bright-red spots with pale yellowish centres. There are also a number of narrow red streaks between the tubules in the cortex and in the pyramids. There is one small cyst, about the size of a pea, near the lower end of the organ, and at the surface, near its upper end, there is a hard yellow nodule, evidently an old infarction.

The right kidney is not seen until the intestines are removed. It is, however, about the same size as the left one (6½ by 3½ by 2¾ inches), though situated higher up, and it weighs exactly the same, and in appearance, externally and on section, it is very similar. It contains a cyst the size of a small bean, and an old infarction, like that in the other organ.

The intestine seems normal (it was not fully examined). The mesenteric glands vary from the size of a hempseed to that of half a walnut. They are extremely soft. On section, some are of a pale cream-color, and others yellowish-red from hæmorrhage.

The testicles are not enlarged, and seem normal.

Thorax: On laying bare the ribs, a few small, bright-red subperiosteal hæmorrhages are seen just outside the costo-chondroid articulations on some of them. When the thorax is opened, the upper half of the mediastinum is found to be occupied by a somewhat quadrilateral yellowish white mass, of a hard, almost fibrous consistence. It measures 3¾ inches from above downward, 2 to 2½ from side to side, and about 2 antero-posteriorly. On the anterior surface there are several punctiform hæmorrhages. Anteriorly, the upper half of this mass is adherent to the back of the manubrium sterni. Posteriorly, it lies on the aorta and other great vessels, displacing them backward. Above, it tapers off to a point about the level of the top of the sternum. Below and behind it is closely adherent to the pericardium. From the position occupied by this tumor, it seems probable that it is connected with the remains of the thymus.

The pleuræ, both costal and pulmonary, present numerous small hæmorrhages, but seem otherwise normal. No adhesions, no effusion.

The left lung is of a pale color, and on section has a peculiar mottled appearance, due to the occurrence of yellowish-red consolidated patches, about half an inch in diameter (hæmorrhages), which are scattered here and there—there being more in the lower than in the upper lobe.

The right lung has a precisely similar appearance.

The glands at the root of the lung are enlarged, some to the size of a hazlenut. On section some are dark-red, from hæmorrhages into their substance.

The pericardium contains about two ounces of reddish milky serum. There are numerous subserous hæmorrhages into both its layers. It is otherwise normal.

The heart is very pale. All its cavities contain a large quantity of pale, almost cream-colored, soft clot. In the right auricle and left ventricle there is also a little black clot. The musculi papillares of the mitral valve show the peculiar striated appearance of fatty degeneration most typically.

The lymphatic glands in the groin and elsewhere present the same characters as those in the abdomen and thorax.

REMARKS.—The main points of clinical interest in the case may be briefly recapitulated:

(1) The rapid course (less than five months) which is characteristic of the disease in early life.

(2) The powerlessness of treatment, which may partially be attributed to the late stage at which the child was first seen, and to the extremely irritable condition of his alimentary tract, which prevented the satisfactory administration of remedies.

(3) The mediastinal tumor, which from its relations may be almost certainly held to have arisen in the remains of the thymus gland, and which is uncommon, although several instances of a similar condition have been published.

(4) The great enlargement of both kidneys, and the fact of the left one forming, during life, such a prominent abdominal tumor.

Abstract of Microscopic Examination, and Remarks. (By Dr. Muir.)

The bone-marrow was of a pale-pink color, but had not that pus-like appearance which has been described in certain cases of leucocythæmia. On microscopic examination, in a 0.6 per cent. solution of sodium chloride, tinted with methyl-violet, it was found that most of the cells were colorless, uninucleated corpuscles of various sizes (6–10 μ) similar to those in the blood. The proper marrow-cells, nucleated red corpuscles, and ordinary red corpuscles were comparatively few in number. The chief change appeared to be a great increase of small uninucleated corpuscles at the expense of the cell elements more strictly belonging to the marrow. In the spleen and lymphatic glands the same cells were seen in great numbers; in the former some were of larger size than in the latter.

In sections of the spleen it was seen that the great increase in size was due to an increase of the cellular elements of the pulp. The Malpighian bodies were small and ill-defined, the trabeculæ were relatively small, and the reticulum of the pulp was scarcely thickened. The cells in the splenic pulp were uninucleated corpuscles of varying size, but most were small. There were no eosinophile cells. Red blood-corpuscles were few in number.

The enlargement of the lymphatic glands also was due to a great increase of the lymphoid corpuscles, and not to any fibrous overgrowth. The corpuscles were most closely packed in the cortex, being in some places very densely aggregated in the lymph-sinus under the capsule. In the medullary portion the tissue was more open, and very vascular. There were no thrombi in the small vessels, but in the chief artery of one of the glands a thrombus was seen composed of mixed layers of leuco-

cytes and a hyaline material. There was no fatty change in the lymphatic glands or in the spleen.

The mass in the upper mediastinum was much more fibrous than the lymphatic glands. It had a stroma of dense bands of fibrous tissue which carried the bloodvessels. These broke up into small bands, between which were spaces filled with lymphoid tissue, in which were many capillaries. There was nothing seen by which it could be identified definitely as the thymus.

The enlargement of the kidneys was seen to be due to an infiltration of its connective tissue with small lymph-corpuscles. This infiltration was pretty uniform in the cortex, where it separated widely the tubules and Malpighian bodies. In the boundary area and in part of the medulla it was arranged in cord-like masses which ran along the vessels, the tubules being found running in the spaces between. Toward the apices of the pyramids there was no infiltration between the tubules. There was considerable fatty change in this lymphoid tissue. The epithelium of convoluted tubules was at places detached and granular, but showed no signs of proliferation, and the change was rather degenerative than inflammatory. The glomeruli were practically normal, and contained comparatively few of the small round cells. There were hæmorrhages scattered in the cortex of the kidneys, and in one place was an old infarct which was encapsuled in fibrous tissue, and in which could be seen the necrosed tubules separated by degenerated lymphoid corpuscles. This showed that the infiltration of the connective tissue must have lasted for a considerable time.

In the liver there was a somewhat similar leucocytic infiltration extending along the portal spaces, and pushing out between the liver cells. There was fatty degeneration of the cells, chiefly around the central vein of the lobule. Some of the liver cells contained yellowish pigment, which did not blacken with sulphide of ammonium.

The muscular fibres of the heart showed extensive fatty degeneration, and the connective tissue under the endocardium was infiltrated with small lymphoid corpuscles. The clot in the heart was composed of numerous uninucleated leucocytes closely arranged, between which were delicate fibrin filaments.

In the lungs many of the smaller vessels were filled with leucocyte thrombi, and the neighborhood of such vessels was often the seat of hæmorrhage. Where hæmorrhage had occurred most of the air-cells were filled with red corpuscles, with leucocytes intermixed, but some were packed almost entirely with leucocytes. This arrangement was probably brought about by the influence of gravity on the corpuscles in the effused blood, or it might have been due to the giving way of vessels which were plugged with leucocytes, these being poured out into the nearest air-cells. The parts of the lung free from hæmorrhage showed dilatation of the alveolar capillaries, which contained many leucocytes, and, in some of the air-spaces numerous round catarrhal cells, many of which contained granules of brownish pigment. The peri-bronchial connective tissue and many of the septa were densely infiltrated with small leucocytes, and the infiltration could be traced along the bronchi to the glands at the root of the lung which were affected like the other glands. Some parts of the pleura were infiltrated in the same way, some were quite free. No part of the lung showed fatty change.

I also examined a specimen of ordinary connective tissue (taken from

the neighborhood of the aorta), and found an abnormally large number of lymphoid corpuscles in its lymphatic spaces.

REMARKS.—Of the various pathological changes found, some are evidently secondary in character. Such are: the fatty degeneration in several situations, but most marked in the muscular fibres of the heart, the hæmorrhages in the kidneys, lungs, etc., the clotting within the heart, and the plugging of the pulmonary vessels with leucocyte-thrombi. The esssential change is the presence of an enormous number of uninucleated leucocytes in all situations where these are normally present. These situations are—(1) in the blood, (2) in the spleen, bone-marrow, and lymphatic glands, (3) in the lymph-spaces of the connective tissue in various organs and parts of the body, *e. g.*, the connective tissue of the kidney (where the phenomenon is most marked), the portal tracts in the liver, the peri-bronchial and subpleural connective tissue in the lung, the subendocardial connective tissue in the heart, and, as an example of ordinary fibrous tissue, the connective tissue along the aorta. Such a condition can only be explained, I think, by an active proliferation of these uninucleated corpuscles. The cells found in the tissues have most probably passed out of the bloodvessels, as they are most numerous around these, though they may proliferate after doing so. The lymphatic glands are, I think, infected secondarily from the tissues, through the afferent lymphatics, and accordingly we find the corpuscles most closely packed in the cortical lymph-sinuses. In fact, given the condition of the tissues as found in this case, we could almost predict such an affection of the glands. I have also seen a case in which the change in the blood was of the same nature as in the present case, though less advanced, whilst the lymphatic glands were not affected, or only very slightly. Hence, though in cases of leucocythæmia in which the glands are affected, the leucocytes, as a rule, are mostly of the small uninucleated variety, the change in the glands is most probably not the cause of the leucocythæmia, but the effect of it. It is difficult to determine the exact starting-point of the proliferation, nor is it so important as the determination of its cause. I have been unable to find microorganisms in this case, though Fermi[1] has cultivated a bacillus from a spleen in leucocythæmia, and Kelsch and Vaillard[2] have found a similar organism in the blood and in leucocytic deposits, and have made cultivations of it. In both instances the lymphatic glands were affected. The theory that a microörganism is the cause of the proliferation of the leucocytes would be in accordance with the facts, and would be rather favored by the course of the temperature in this case.

The anæmia I consider to be due to the occupation of the blood-

[1] Fermi, Centralb. f. Bakt. u. Parasit., vol. viii., November 18, 1890.

[2] Kelsch and Vaillard, Annales de l'Institut. Pasteur, 1890, p. 276.

forming area in the bone-marrow by these leucocytes, with consequent diminution of the nucleated red corpuscles, etc., rather than to a failure of transformation of leucocytes into red corpuscles; it being now generally held (and my own observations support the view), that the leucocytes in the blood do not become red corpuscles.

A CASE OF SUCCESSFUL REMOVAL OF A RETRO-PERITONEAL FATTY TUMOR.[1]

IN THE COURSE OF THE OPERATION A VEIN, SUPPOSED TO BE THE LEFT COMMON ILIAC, TORN AND TIED.

By John Homans, M.D.,
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It has been my fortune to meet with several large fatty tumors in the abdomen and on the thigh. Three of those in the abdomen weighed over fifty pounds, and two in the thigh weighed over ten pounds each, and extended from Poupart's ligament to the patella.

The case which I report is interesting, as being the only one of its kind which has been successfully removed by laparotomy, or perhaps I ought to say that I can find none reported.

The patient was a woman, fifty-four years old; married. She was the mother of five children, the youngest being thirteen years old. On the day I first saw her she was, in general appearance, rather pale and anxious-looking; there was no œdema, and but slight emaciation. On examination, the abdomen was found uniformly distended, and enlarged to the size of a five months' pregnancy. There was a rounded, smooth, rather hard, non-fluctuating tumor filling the pelvis and rising nearly to the umbilicus. The abdomen was tympanitic, except just below the umbilicus over an area the size of the palm of the hand. On deep pressure a larger area of dulness was found. Both flanks were tympanitic. On auscultation, no aortic sound nor impulse was heard. There was slight tenderness in the left flank. The parietes were moderately thick. The tumor was very slightly movable. The girth at the umbilical level was thirty-one and a half inches. The uterus was pressed downward and backward, and could not be decidedly separated from the tumor. Bimanually the tumor was found to be slightly movable, non-fluctuating, and rather flabby-feeling. The urine had a specific gravity of 1009, and contained a large trace of albumin and numerous hyaline and granular casts, pus, and renal epithelial cells.

Since the change of life, twelve years before, at the age of forty-two, she had been troubled by frequent vomiting, usually in the morning; and for the past three weeks it had been almost incessant. It was for

[1] Read before the Boston Society for Medical Improvement.

the relief of this symptom that she entered the Massachusetts General Hospital. Her father and one sister had died of phthisis. About a year before her entrance she had noticed a "lump" in the lower part of her abdomen, about the size of an egg, and had not noticed any special change in its size since; she had been losing flesh and strength during the past five months. My diagnosis was uncertain. I did not think the tumor ovarian, and probably not a fibroid of the uterus, and I said frankly that I could not make an exact diagnosis, but that I thought it my duty to open the abdomen and see what the tumor was. If the renal symptoms and the vomiting were caused by the pressure of the tumor, they could be relieved by its removal; if they were caused by chronic interstitial nephritis, then the woman would prove a poor subject for a surgical operation, and the result would, perhaps, be fatal.

On March 18th, 1889, I opened the abdomen by an incision about five inches long. I found the tumor to be covered by two layers of peritoneum, and encapsulated. I divided both layers of peritoneum and put a corkscrew into the tumor, but it tore its way out, and the fragments coming with it were seen to be fat tissue. The capsule was then split open and the tumor shelled out comparatively easily; smaller lobules or tumors were then seen between the spine and sacrum and peritoneum, extending down into the pelvis. Several of these smaller tumors were shelled out of their capsules and attachments with considerable difficulty. In separating them, a vein on the left brim of the pelvis, the size of an ordinary little finger, and which I took at the time to be the left common iliac, but which may have been the internal iliac, was slightly torn, and bled very freely. I seized the vein in pressure forceps and tied it with silk above and below the hole—several other bleeding points were tied with catgut. Other small lobules were seen, which apparently ran down to the right buttock. The abdominal cavity was sponged out, and the wound closed without drainage. The uterus and its appendages were apparently normal. The intestines were not seen. The estimated weight of the whole mass was about five pounds. Dr. W. F. Whitney, Curator of the Warren Museum, reported that the growth was composed entirely of fat tissue. She had one-fifth of a grain of morphia five hours after the operation; she vomited once on the 18th and once on the 19th of March, and never afterward. The temperature never rose above 100°; her left leg did not swell, nor has the circulation in it ever been impaired. I hunted her up and found her in her lodgings, doing all her own work, on December 8, 1889, more than six months after the operation. She had never vomited after her return home, and was robust and strong. I obtained a specimen of the urine, and found it to be still slightly albuminous. On October 15, 1890, I received a note saying that her health was fairly good, except for symptoms which might be attributed to the renal disease.

I have purposely refrained from reporting this case earlier so that I might learn if the cure was permanent. So it is, as far as the tumor is concerned and the relief to the vomiting, but, of course, the renal troubles may increase at any time. Most of these large, fatty tumors are myxo-lipomas, as was the case in the two that I removed some years ago, and reported in the London *Lancet*. It is, however, the position of these tumors, and not their structure, that makes them difficult of

removal. I have seen four retro-peritoneal lipomata. Two were in men and two in women. Three were removed; in two the results were fatal, and in one successful. In the fourth the diagnosis was confirmed by autopsy. Operations for the removal of these tumors, if they are very large, are likely to be fatal, because they extend up and down the spine in the retro-peritoneal space, often behind the liver and stomach. They are, however, of rare occurrence.

At my request, Dr. Lorini has examined all medical literature to November 21, 1889, at the Medical Library in Washington, under the care of Dr. Billings, and but two cases similar to the above have been found. In both of these cases operations were attempted, and resulted fatally. Perhaps other cases have been operated upon, but they have not been published. The first case was that of Dr. F. Walser, and the second that of Dr. H. H. Mudd.

"*Retro-peritoneal Lipomata.*—Dr. F. Walser (*Allg. Wiener med. Zeitg.* No. 6, 1881, p. 63.)—Female, aged thirty-four years. Menstruated at seventeen years. Married at twenty-two years. Four children. Tumor in left side of abdominal cavity, movable in front, apparently fixed behind. Enormous expansion of abdomen. Patient was tapped several times, but no fluid obtained. Later an opening was made with a thermo-cautery in left iliac region, and a lobulated tumor, apparently made up of fat, was exposed, and was removed, excepting a small part of it. Death occurred two days later.

"Autopsy: The tumor was found to have filled the entire left half of the abdominal cavity, involving the sigmoid flexure of the colon. The mass was adherent to the peritoneum throughout, and was found to have grown from the thickened subserous cellular tissue of the same. A microscopic examination of the tumor showed some layers of stripes of myxomatous tissue rich in cells, penetrated by numerous capillary vessels. The greater part of the tumor was, however, infiltrated with fat.

"Diagnosis: Lipoma myxomatodes (myxoma lipomatodes) subperitoneale."

"H. H. Mudd (*Weekly Medical Review*, St. Louis, July 6, 1889, p. 4).—Mrs. M. B., aged seventy-one years. Menstruation ceased at her fifty-ninth year. Patient refused operation at first, but finally consented. Exploratory incision June 20, 1889. It revealed what the author took for a retro-peritoneal fatty tumor, and the incision was closed. Patient seemed but little disturbed by the operation; sat up in bed next day, but maintained recumbent position most of the time, and died June 25th, five days after the operation, of œdema of the lungs and exhaustion.

"Autopsy: A large fibro-lipoma filled the abdomen. It sprang from the posterior wall, and occupied and was adherent throughout to the right lateral region from the liver to the brim of the pelvis, and to the median line from the cœliac axis to the sacrum, and also to the upper portion of the left posterior abdominal wall, its firmest attachment being along the spine. The pyloric end of the stomach, the duodenum, and pancreas were imbedded in the mass; the spleen was lifted forward with the pancreas, and was adherent to the tumor. The small intestine and colon, pushed over to the left side posteriorly, occupied the lower part of the peritoneal cavity. The lower end of the ileum was imbedded in the anterior part of the tumor, so that the head of the colon was adherent. Both kidneys were displaced and surrounded by the tumor, the right carried downward and forward in the tumor, fully a foot from its normal position, the left deeply within the substance of the tumor. The left portion of the fore edge of the liver was closely adherent to a fissure in the mass. Bladder, uterus, and broad ligament were free. No ascitic fluid. Tumor lobulated, with lobuli varying in density. Weight,

sixty-three pounds. No adhesions of the peritoneal surface, and no evidence of local irritation at the site of the exploratory incision."

Other cases of fatty tumors of the abdomen have been reported. One in which Sir Spencer Wells operated seems to have been a retro-peritoneal lipoma, but Sir Spencer remarks that: "The tumor appeared to have originated in the mesentery." The patient died fifty-eight hours after the operation, and the post-mortem appearances are described by Mr. J. Cooper Forster, as follows:

"Woman, aged forty-three years; single. Exploratory incision was made, revealing the tumor to be a mass of fat. Closed the opening and awaited consultation for further treatment. Patient suffered very little pain, and it was decided to remove the tumor. Done on November 5, 1867, when masses of fat were removed after dividing a loose cellular capsule. A large lobule was felt in the neighborhood of the right kidney, but was not disturbed. The tumor appeared to have originated in the mesentery. (November 5, 1867.)

"Appendix: May, 1868.—Patient died fifty-eight hours after the operation. On post-mortem examination, traces of recent peritonitis were observed. Mass of fat on the left side involved the right kidney, pushed the ascending colon over to the left, and adhered to the under surface of the liver. Many mesenteric glands were enlarged and enveloped in fat. There was not more fat than usual in the omentum. The weight of the portion of fatty tumor removed during life was twelve pounds, or thereabouts, but it was not weighed. Uterus and ovaries both healthy."

Another case reported by Mr. J. Cooper Forster, is to be found in the *Transactions of the Pathological Society*, London, vol. xix. page 246. It is therein entitled:

"Fibro-fatty Tumor of the Abdomen, weighing fifty-five pounds. Woman, aged sixty-three years. Paracentesis abdominis performed several times, but no fluid found. No operation was further attempted. Patient lived sixteen days after last paracentesis, and died from apnœa.

"Autopsy: Viscera healthy; occupying the whole abdomen was the enormous mass, weighing fifty-five pounds when removed, *not attached by any pedicle or well-marked root to one spot.* It was evidently composed of fat and fibre-tissue, lobulated as an ordinary fatty tumor, but not quite so greasy."

It is possible that this may have been a retro-peritoneal tumor, but there is nothing in the autopsy to indicate from whence the tumor grew, and it may have been omental fat.

Case of Dr. Reeves Jackson, of Chicago. Paper was read at morning session (second day) of the American Gynecological Society. Abstract of it to be found in the October number of the *Transactions* of that Society, page 1057. The case is one of *fatty tumor of the supra-renal capsule.*

"Woman, aged thirty-eight years; American. Married twenty years; five children. Operation November 25, 1888. Author concludes:

"This is the only fatty tumor of the supra-renal capsule which I can find on record that has been removed before death. It weighed twenty pounds."

The cases of Pean mentioned by Jackson are not relevant, being mesenteric lipomata.

In the discussion which followed the reading of Dr. Jackson's paper, Drs. S. C. Gordon, C. C. Lee, and Fordyce Barker stated that they had seen similar cases, in all of which operation had been followed by death. It seemed strange to them that the removal of a simple lipomatous mass should prove so extremely fatal. These cases have been looked for in vain, and probably were never published.

SPURIOUS PREGNANCY.

A CRITICAL TREATISE FROM A PRACTICAL EXPERIENCE.

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Though by no means rare, cases of spurious pregnancy are always of interest. Thus it is that, having had under observation three well-marked examples of this curious phenomenon, I venture to bring forward this short treatise on the subject. To briefly state the cases, they are as follows:

Case I.—Nullipara, aged forty-six, married many years, ceased menstruating, and in due course quickened, and developed a prominent abdomen. She was also a martyr to severe "morning sickness." The local medical adviser naturally pronounced her pregnant, and it was arranged that she should be confined in this city. Suitable apartments, nurse, etc., were accordingly engaged, and the lady came to town a month before the expected date of the confinement. At that time, upon casual observation, her advanced pregnant state seemed quite apparent. Labor pains arrived with the utmost precision upon their specified date, and upon being called in to manage the labor my consternation can be better imagined than described when I state that I found the uterus small and retroverted, while on percussion the abdominal tumor gave a tympanitic note. The announcement of the condition, I need hardly say, was a great blow to the would-be parents, a direct heir being in great demand to inherit their not inconsiderable estate.

I may add that, on careful examination, except the distended abdomen, no further signs of pregnancy were apparent, the breasts being small and flaccid, while no areola was manifest. Upon complete anæsthesia the abdominal swelling completely subsided.

Case II.—A multipara, aged forty-eight, sent to the Maternity Hospital for a "doctor" (student), as she was about to be delivered of her thirteenth child. A tyro was accordingly sent, accompanied by the orthodox duet of nurses. They, after a long and watchful night, became alarmed at a little hæmorrhage which was taking place, and sent for assistance. On arrival I found the woman to be suffering from a pretty advanced carcinoma of the cervix, and quietly telling her of her mistake was roundly denounced as ignorant.

The signs of pregnancy in this case were not well marked; the abdomen, though distended, felt flabby, while the breasts were soft and flaccid, and contained no milk. The symptoms which had led the woman to believe herself pregnant were the cessation of menstruation and (apparently) active fœtal movements, associated with other minor symptoms which she had found to be associated with her previous pregnancies.

CASE III.—A multipara, aged thirty-six, four children, youngest six years, considered herself pregnant about eight months, and came to consult me about her courses, which she said had continued through her entire pregnancy without any irregularity. She dated her period of pregnancy from the time of quickening, and a number of other minor symptoms, morning sickness, etc., which she knew from experience as indicative of that condition. Upon examination the abdomen was distended quite in accordance with the date of the pregnancy. It felt tense and hard, but gave no resonant percussion note. The breasts were large, heavy, and full of milk, which could be squeezed out in considerable quantity with ease. The uterus was normal in position, and slightly enlarged. On passage of the sound it entered 3½ inches, while a small fibroid was situated in the anterior wall. When told of her mistake my statement was received with incredulity, and even at the present moment she believes she was pregnant, but that I "took it away" when I put her under chloroform—for some further observations I wished to make—at a later period. The patient stated that the fœtal movements were well marked, and at times even troublesome, while for four months she suffered more than usual from morning sickness.

After such an experience as detailed, one cannot, I think, agree with Pajot and Charpentier when they say "there is no such thing as spurious pregnancy." The cases before us simulated pregnancy, and it alone, in so far as it was possible without being the actual condition. No other state, either physiological or pathological, could be mistaken for it on subjective examination even by the veriest tyro; therefore, to me it appears strange and worthy of notice that two so well known and eminent authorities should make such a statement in the face of so many similar recorded cases.

Granted that there is such a condition, we naturally turn to inquire what the condition is, and how it comes about?

Many explanations have been given regarding the first query, such as wind in the womb, flatulent distention of the intestines, and excess of fat in the omentum.

Any of these, however, must be considered to be far short of the whole truth when we know that, in the great majority of cases, complete anæsthesia entirely dissipates the abdominal tumor. Evidently, then, the abdominal distention is in many cases entirely due to muscular contraction of a more or less complex nature.

The muscles chiefly involved are the recti, obliques, and transversalis abdominis. These, if contracted, will give a decided prominence to the abdomen, a state of matters which was quite new to me till one day,

after tapping a patient (for the fifty-second time, I may add) who was suddenly seized with a violent cough, with the result that the abdomen was protruded in a most marked manner: a process which was repeated, (although with much more prominence of the recti) when he attempted to raise himself from the reclining to the sitting posture.

An exactly similar condition was again demonstrated to me by a patient who suffered from severe vomiting immediately after the removal of a large ovarian tumor.

Having these cases on my mind when I saw patient No. III., I determined to try the result of an electric current through the muscles of her abdomen, when they were flaccid during anæsthesia.

The result passed expectation—a faradic current through the abdominal muscles causing the most marked prominence of the abdomen in a manner quite analogous to her condition before anæsthesia.

A similar purely muscular distention of the abdomen I have frequently felt during and after the third stage of labor, which rendered a grasp of the uterus most difficult to obtain.

As a result of this distention of the abdomen the intra-abdominal pressure will naturally be much diminished, and thus allow of much flatulent distention of the intestines—a condition which, being naturally generally associated with the prominent abdomen, has been frequently looked upon as the cause instead of the effect.

Such, then, being an explanation of the factors in this strange process, one naturally looks for an explanation of the prime cause—a much more difficult question.

On looking over the published cases it will be noticed that the great majority of examples have been furnished by women at the menopause, while the others have been associated with disease of the generative organs or vitiated mental conditions. We must, therefore, consider our essential cause primarily as purely nervous, but we can go still further, and subdivide it into two varieties, mental and reflex. The former is generally exemplified by the wish being father to the thought—women at the change of life clinging closely to the cherished ideal of their sex, and relinquishing it with reluctance. But again, it is occasionally due to fear, the result of some illicit intimacy, as is well exemplified by a case described by Gooch.[1]

That it is frequently, however, quite independent of purely mental origin, Cases II. and III. give excellent proof. Neither were desirous of having children; one had already had twelve and was barely able to support them, while the other personally told me she would rather not be pregnant, and seemed grateful at my supposed clandestine removal of the offending member. Both suffered from distinct pathological

[1] Gooch's Diseases of Females, p. 226.

states of the uterus, and I think we may legitimately infer that the abnormal condition was entirely of a reflex nature—an origin leaving little to imagination, when one considers the intimate nervous relations which exist between the uterus and abdominal muscles in the lumbar plexus.

To account for the cause of the other signs of pregnancy in any more lucid manner than by generally attributing them to nervous influences is hopeless; details are a mystery. But if, as is well known, sudden nervous impressions are sufficient to inhibit the secretion of milk, there seems no reason why other nervous impressions may not react in an opposite manner.

An example in the lower animals under my own observation illustrates, in a marked manner, the influence of will in promoting the lacteal secretion. A Dandie Dinmont bitch has had pups three times, the last litter five years ago; since that time, however, she has successfully nursed three litters of Highland terrier puppies, which she appropriated at the earliest opportunity after severe conflicts with the real mother, a weaker dog. Other cases such as this have been recorded by Harvey.[1]

The subject as a whole, though highly interesting and curious from a scientific point of view, demands from a practical standpoint special attention.

No more damaging error of diagnosis can be made than that regarding pregnancy, and none more certain to be revealed, and I might almost say, proclaimed from the housetops. Therefore these cases, though scant, must be of value in teaching how necessary it is to refrain from assenting to a diagnosis of pregnancy, without having satisfied ourselves of at least one *absolute* sign.

THE TREATMENT OF INFLAMMATION OF THE EUSTACHIAN TUBES.

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The great clinical importance of the inflammatory diseases of the Eustachian tube may, perhaps, be best summarized by stating that all ear diseases, not dependent on causes acting from without through the external auditory canal, are dependent on Eustachian lesions. When the enormous frequency of middle-ear affections is considered, it will be

[1] Generation of Animals, p. 540.

admitted that few subjects could be of more interest, not only to the aurist, but to the general practitioner as well.

Simple acute Eustachian salpingitis is a frequent sequel of acute nasopharyngitis of various types, notably of true acute coryza and the several phases of acute rhinitis associated with scarlet fever, measles, etc. It may exist as an active hyperæmia only, or may go on to deep-seated infiltration and serious inflammation. The phenomena are those of inflammation of any mucous membrane; there is swelling of the mucosa and increased secretion, the exudate containing numerous ciliated epithelial cells. The mucus may be so thick and adhesive as to project from the pharyngeal orifice as a bulla, the masses being of jelly-like consistency and often of considerable size. The gland follicles are also engorged and enlarged, giving a granular appearance to the tubal lips.

The symptoms of acute tubal catarrh are pain, either of an indefinite, dull, heavy character or, in severe cases, the characteristic *boring* pain of "earache," autophony, deafness, and tinnitus aurium. Examination with the rhinoscope shows engorgement, sometimes closure of the Eustachian opening, and in the later stages of severe cases the mucous exudate above described. The nasal mucous membrane shows the "wet-brick" congestion of acute rhinitis, with the usual swelling and occlusion, rapidly disappearing under applications of cocaine. The pharynx shows engorgement of the tonsillar regions in most cases. Inspection of the membrana tympani may or may not demonstrate retraction, with more or less injection of the manubrial plexus of bloodvessels.

The prognosis is complete return to normality under proper treatment, but if the disease is left to run its course some permanent impairment of hearing almost certainly results.

True croupous inflammation[1] of the tube occurs as a complication of pharyngeal diphtheria, usually in fatal cases, the symptoms being those of simple inflammation much exaggerated.

Chronic Eustachian salpingitis is the most common ear disease occurring in the eastern United States, from one-half to three-fourths of the aural cases applying at our clinics, or for private treatment, being sufferers from some stage of this affection. The pathological lesions are persistent hyperæmia and infiltration, with enlargement of the glands and thickening of the sub-mucous connective tissue, from fibro-blastic organization of leucocytes. This may be so extensive that the hypertrophied mucous membrane is thrown into folds and wrinkles at the Eustachian orifice—a most important fact to remember when using the Eustachian catheter in these cases.

The symptoms of this condition are progressive deafness, distressing tinnitus aurium, occasional autophony when the tubes contain mucus,

[1] Wendt: Archiv. der Heilkunde, xi. S. 261.

and, under the same conditions, squashing and bubbling sounds in the ear. Although noted in few if any text-books, dull pain, throbbing, and a sense of tension and distention in the ear are among the first and commonest symptoms of this disease. Vertigo, headache and neuralgia are frequent, and phenomena caused by the naso-pharyngitis are prominent. By the rhinoscopic mirror the tubal prominences are found to be swollen, dark-red in color, and the openings are often occluded by tenacious mucus or hypertrophied mucous membrane. Large, prominent veins, similar to those so frequently seen on the pharyngeal wall and epiglottis in long-standing pharyngo-laryngitis, traverse the tubal lips. The nares show advanced rhinitis, and the pharynx gross nodular changes bearing a direct causal relation to the nasal and aural lesions, as I have previously shown.[1] Examination with the ear speculum and mirror (always far less instructive than inspection of the Eustachian region) shows varying degrees of opacity and retraction of the drum, very frequently associated with vasomotor disturbances of the lining of the external canal, cerumen impactions, eczema, etc.

In patients in whom the catarrhal diathesis is prominently present, usually as an inherited condition, chronic Eustachian salpingitis tends inevitably to progress into true aural sclerosis. The causes are a condition of bloodvessel malnutrition, occasionally associated with gout, syphilis, or tuberculosis, but far oftener seeming to depend on the action of some constitutional poison, as diphtheria, or on some obscure central vasomotor influence.

The symptoms, when advanced cirrhotic changes have occurred, are not obstructive; frequently, on the contrary, the Eustachian channels are widely patulous. Progressive deafness, severe tinnitus, and, as in cirrhosis of other organs—the kidney, etc.—a proneness to acute exacerbations, are characteristic symptoms. The tubal prominences are atrophied, shrunken, yellowish-gray in color, their openings plainly visible; and the use of the Eustachian catheter demonstrates the tube to be too freely open throughout its length. The general post-nasal mucous membrane is papillomatous,[2] fibrous, and anæmic; secretion is usually scanty, with an inclination to form thin, scaly crusts. The respiratory mucous membrane, from the anterior nares to the capillary bronchi, shows inflammation and induration, and the skin, digestive tract, and heart demonstrate the "catarrhal diathesis."

The tympantic membranes show hickening, retraction to "jamming," adhesions, and newly-formed fibrous tissue bands, the function of the drum being often completely destroyed; the tubal muscles also undergo fatty degeneration and atrophy, so complicating and adding to the vicious circle of pathological processes.

[1] The Medical News, October 22, 1887.

[2] See The American Journal of the Medical Sciences, February, 1889.

The prognosis of simple chronic Eustachian inflammation under careful management is excellent, great relief and occasionally cure resulting. In true aural sclerosis, however, the outlook is extremely grave; without treatment or climatic change, total loss of hearing seems the only alternative; and misdirected therapeutics, and preëminently meddlesome operative surgery, assures speedy and hopeless deafness. Fortunately, however, by the use of proper means, if the patient can be controlled, the disease can be arrested in most cases, and in some instances a slight degree of improvement secured.

A third type of Eustachian disease deserves special consideration. *Septic* tubal inflammation, the Eustachian lesion of purulent otitis, precedes and accompanies all cases of middle-ear suppuration, and may be found in examples of purulent rhinitis where the tympanum has as yet escaped infection. The cause is the entrance of pathogenic bacteria or their ptomaïnes into the ear-tube; it occurs, therefore, with all types of septic naso-pharyngitis, preëminently in scarlatina, typhoid, diphtheria, and measles.

The symptoms are usually marked and distressing, being those of simple acute inflammation much exaggerated; if the tympanum is invaded, agonizing pain, delirium, and even coma may ensue, the temperature frequently reaching 105°. On examination the post-nasal mucous membrane will be found intensely gorged, œdematous, and dark-purple in color; erosions extending to shallow ulcers, from the death and shedding of epithelia, are also characteristic lesions. The tubal opening is usually not visible, and patches of semi-adherent pus stick to the Eustachian prominences and the general mucous membrane. I have frequently seen glairy muco-pus oozing from the tube in an adherent string, illustrating the bad surgery of using Politzer's inflation—as usually employed—in these cases. Inspection by the external canal may show any phase of destructive otitis, and perforations of the drum are the rule.

The affection is always a serious one, always threatening both hearing and life; the first by invasion of the tympanum, the second by extension to the mastoid cells and the meninges. General septicæmia, with its dangers, is also far more common in cases of purulent otitis, the writer believes, than is taught in most otological works.

The treatment of Eustachian salpingitis varies widely, according to the variety and the stage of the disease. The simple acute type reacts exceedingly well to properly directed therapeutics. The indications are: first to control the coryza by means of cocaine muriate, delicate antiseptic and sedative spray applications, and the use of a sedative powder, containing bismuth, morphine, and atropine; or, as I frequently employ, a spray application of menthol, camphor, and eucalyptol, in minute proportions, dissolved in *albolene*, or a similar bland oil. In severe cases

where discomfort is great, atropine and sodium bromide, given by the mouth, seem to exert a strong controlling influence. The pharynx should receive soothing treatment, and laryngeal or bronchial complications careful attention. Symptoms referable to the middle ear, unless pain is a prominent feature, are far less important, as they will disappear as soon as the salpingitis is controlled, and all meddlesome surgery directed to the drum membrane through the auditory canal is so unscientific and useless as, perhaps, to deserve the name of an anachronism—belonging as such procedures do to the dark ages of otology. Politzer's or catheter inflation may be called for in the later stages of the disease, and direct tubal applications by means of the *syringe-catheter* are indicated, should hyperæmia and hypersecretion persist.

If the inflammatory process tends to continue and become subacute in character, sprays of the distillate of hamamelis, properly diluted, or of the sulpho-carbolate or iodide of zinc, used preferably in the post-nasal atomizer, act very well. Patients can usually be dismissed cured in from one week to one month of treatment.

Croupous inflammation of the tubes and naso-pharynx demands the approved antiseptic treatment of diphtheria, but when the disease is so extensive is seldom successful; the urgency of the laryngeal and constitutional symptoms generally far outweighing and masking the aural sequelæ.

Chronic Eustachian catarrh was, up to a very recent date, one of the opprobria of the profession; the prognosis under the dallying, unscientific treatment in vogue a few years ago, as to relief, being *nil*. But at the present time, improvement can be promised to all but aged or hopelessly delicate patients, and a cure can be obtained in most early cases. The naso-laryngeal tract must first be brought as near a condition of normality as its lesions and the state of our knowledge permit. Especially must all nasal obstructions be removed, the great danger of even a moderate degree of stenosis having been incontrovertibly proved by Pomeroy[1] and others. Usually this can be accomplished by the use of well-chosen sprays, of chromic acid used by Bosworth's method, or by the very cautious and conservative employment of the galvano-cautery; in very rare cases only the septal knife, saw, or gouge, and the nasal snare may be needed. But (*physiologically*) free respiration through both nostrils is absolutely essential to permanent improvement.

The faradic current applied directly to the turbinated bodies, the Eustachian prominences and the pharynx, by means of the nasal electrode, and applications to the tubal lining by means of the syringe or ordinary catheter (only the mildest solutions in bland oil being admissible in the latter instance) are of great value. Of course, inflation, drum massage,

[1] The Medical Record, February 18, 1888.

and other of the well-known therapeutic methods must be directed to the tympanic membrane and chain of ossicles to secure improvement in hearing. Internally and constitutionally the bloodvessel tonics are of the first importance, and careful regulation of the habits of life is essential.

In cases of true sclerosis, applications of stimulants to the naso-pharynx and Eustachian passages are of far more value than is generally supposed; galanga, iodine, eucalyptus, thymol, and myrrh, are valuable in the order named, and the approved treatment of sclerotic rhinitis and pharyngitis must be carried out in fullest detail. Constitutional remedies are to be directed to the diathesis, and a large share of fresh air and exercise, accurately regulated, must, if possible, be secured. The methods advocated in earlier stages of the disease should be carefully carried out, often over periods of a year or more, and the patient must remain under permanent supervision.

The procedures through the outer canal, at the command of modern aurists, are almost too numerous to mention; but very many highly-lauded operations are, in the writer's opinion, not of permanent benefit, but of inevitable injury. An invariable rule should be that no fresh migration of leucocytes should be caused—their tendency to form fresh connective tissue being the pathological essential of the disease. The *rationale* of scientific treatment is to so "stimulate" the blood and nerve-supply as to prevent the hyperplasia and contraction of connective tissue elements, and to control inflammation and the migration of fibro-blasts.

Two operations are at the present time very fashionable in aural sclerosis: *mobilization of the stapes*, lately brought forward as new,[1] but frequently performed, lectured upon, and reported[2] by me more than three years ago under the name of *drum-stretching*, and considered on theoretical and anatomical grounds years before by Kessel and Politzer, is perhaps the most valuable practical operation in these cases. But its effects last but a few months at most, and it cannot yet be decided whether, from its frequent repetition, the patient receives permanent benefit or the reverse. Done with extreme care there is no inflammatory reaction, and but trifling risk; the operation consists in making a free incision in the posterior segment of the drum; a hoe-like instrument of great delicacy is then introduced through the cut, and cautious traction made on the handle of the malleus, or the incudo-stapedial joint, or both, so "stretching" and possibly breaking up adhesions. In nearly all cases there is at least temporary improvement in hearing, and—*as is the case with almost every operation upon the ear* (*as upon epileptics*) temporary "cure" of the tinnitus aurium.

The second fashionable operation, recently brought into much promi-

[1] Annales des Maladies de l'Oreille, November, 1889.
[2] The Polyclinic, September, 1887, p. 89.

nence, but not new, is *excision of the drum-head* with the malleus and [*occasionally*] the incus; the procedure is naturally a far grosser one than stretching, and exceedingly liable to be followed by reactive inflammation. This operation, possibly of great value in purulent attic disease with necrosis of the ossicles, the writer cannot consider rational in cases of aural sclerosis, for the following reasons:

1. The operation always causes fresh migration of small cells, whose persistent tendency is to organization with subsequent contraction, equalling increase in deafness.

2. The method (in many cases) permanently robs the delicate tympanum of its protective covering, the drum, and all aurists are aware that the results of a persistent perforation are cirrhosis and impairment of audition: the primary physiological purpose of the membrana tympani being protective, any permanent opening is harmful to the ultimate condition of the organ. As so ably shown by Richey, of Washington,[1] "The tendency of the membrane to heal is an effort on the part of Nature to preserve the function of hearing from the effects of disease, or ill-advised surgical interference."

3. The manipulation is always painful, requiring general anæsthesia, and always has an element of danger—actually resulting in not a few instances—viz., acute purulent otitis, with its perils to hearing.

To summarize briefly, it may be said that the operation of excision—of admitted value in some cases of necrosis—offers not a single advantage over that of mobilization in aural sclerosis, but is, on the contrary, dangerous. Politzer's section of the posterior fold of the membrana tympani will often secure (and has done so in my hands) all the results in diminishing tension and tinnitus which have been reported as resulting from excision, and has the immense advantage of being safe, and almost without proneness to set up acute changes. Yet its distinguished inventor does not claim that the results are permanent.

The technique upon which I have most relied during the last three years for the control of distressing tinnitus after routine measures have failed, consists in *freezing the mastoid region* over the branches of the posterior auricular and stylo-mastoid arteries by means of a rhigolene or ether spray. The skin is frozen white over the entire mastoid area—of course with proper caution—at intervals of from one to six weeks, for an indefinite period; the results being almost invariably good, and "cure" of the tinnitus in a certain proportion of cases. The method was publicly used and lectured upon by me to the Polyclinic class in the fall of 1887, and has since been used continuously with increasing confidence. The exact explanation of the result is somewhat doubtful; the well-known vasomotor effect of freezing methods are, however, well known, and it is doubtless by means of the nerve influence, acting through

[1] Transactions American Otological Society, 1880.

the stylo-mastoid artery—which supplies the tympanum, mastoid cells, and semi-circular canals—that the method acts favorably. It is also well known that surface freezing lessens the conductibility of nerves, and profoundly affects nerve centres.[1]

The therapeutic management of purulent Eustachian salpingitis does not differ widely from that proper in cases of simple acute catarrhal inflammation, but the spray selected should be decidedly antiseptic, as well as sedative, in character, and the drum and middle ear demand the most thorough attention and treatment. Inflation should not be used unless the lower portion of the tube can be first cleared, and injections of fluids into the tympanum through the Eustachian passages have been found to be rarely valuable. Tonics are always called for, and complications will need special attention. Thorough treatment of the naso-larynx, antiseptic irrigation through the external canal, and the proper use of boric-acid powders, will cure all cases where neither a profound cachexia nor dead bone exists, the latter being causative of the luxuriant growth of granulation tissue so troublesome in many cases of this type.

In conclusion, it has been the experience of all aurists that in no region of the body are meddlesome therapeutics so ill borne as by the Eustachian tubes, and all methods must be carried out with the most cautious, painstaking conservatism, to insure good results, in all phases of Eustachian salpingitis.

49 N. Seventeenth Street.

HÆMO-HYDRO-NEPHROSIS, DUE TO A SLIGHT INJURY; DRAINAGE; RECOVERY.

By Gilbert Barling, B.S., F.R.C.S.,
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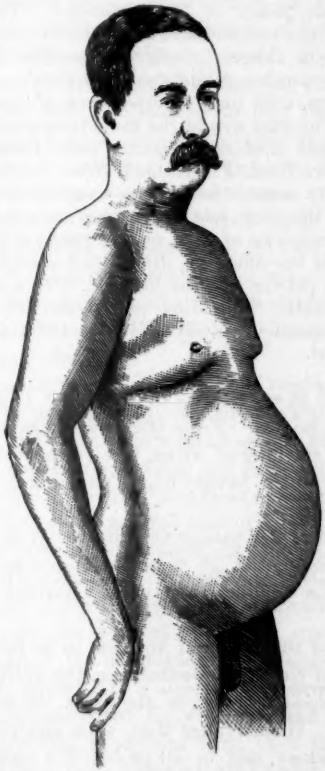
R. W., aged fifty-four, came under my care at the General Hospital, April 27, 1889, with a large tumor occupying the front of the abdomen, on the right side. It extended upward nearly to the costal arch, downward to the brim of the pelvis, and nearly to the middle line, but did not present at all distinctly in the lumbar region. Palpation gave the impression of a very tense cyst; there was no resonance over the front of it, such as usually exists in renal tumors. The skin and subcutaneous tissues moved freely over the tumor, but the muscles were tightly stretched over it, giving the impression that the swelling might be intra-muscular. His *history* was as follows: About two years before admission the patient's wife, when getting into bed, slipped, and knelt on his right side with some force, causing very severe pain for a short time. Six months ago he noticed a swelling on this situation as large

[1] See Dr. S. Weir Mitchell, in Medical News, September 3, 1887.

as an orange. This slowly increased in size until the last few weeks, during which time the increase in size has been rapid. The patient, formerly a fat man, has lately lost flesh rapidly.

Puncture with a hypodermic needle drew off brown-colored fluid, which contained blood-corpuscles, large granular or exudation corpuscles, and cholesterin.

The urine for twenty-four hours was forty-three ounces, specific gravity 1020, acid, without deposit, and free from albumin and sugar.



April 30. An incision four inches long was made over the most prominent part of the tumor, and on opening the abdomen a dense, white capsule presented itself, showing, over an area as large as a crown-piece, a staining with blood round the needle-puncture. The hand passed into the abdomen failed to find any intestine in front of the cyst, the limits of which, easily determined from the liver above, could not be defined in other directions, though the wide base evidently occupied the region of the kidney. A large trocar emptied seventy-two ounces of cocoa-like fluid with a slight urinous odor, and containing a large quantity of

cholesterin. Subsequent examination showed that this fluid contained 5 per cent. of urea. An incision was then made through the very dense wall of the cyst, which was fully one-third of an inch thick, and the cyst edge was stitched to the abdominal wall, a glass drain being inserted. Before this was done about another twenty ounces of fluid escaped, containing bits of dark-brown material, the size of marbles, evidently old blood-clot, and a layer of this material lined the inside of the cavity.

For the first few days all went well, the cyst being carefully irrigated twice a day, whilst there was a fresh discharge, evidently consisting partly of urine, with pieces of old blood-clot. The discharge then became very putrid, the temperature was considerably elevated at night, the patient got much thinner, there were profuse sweatings, and the urine passed by the urethra diminished in quantity until it fell to as low as sixteen ounces, with only 0.75 per cent. of urea, and it was constantly alkaline. The cyst was at the same time steadily shrinking, and as I could not but feel that nephrectomy under these conditions would pretty certainly prove fatal, I refrained from further operation. By the beginning of July matters had begun to mend; the temperature was practically normal, the urine rose to between twenty and thirty ounces, with increase in the amount of urea, and its reaction was acid, whilst the discharge, which was less offensive, diminished considerably.

October 30. The patient left the hospital, with a sinus still discharging, but otherwise well. The urine passed was fifty to sixty ounces in twenty-four hours, specific gravity 1014 to 1020, acid, and with no abnormal constituent.

He has now been at work several months, is looking well, and has regained the weight he lost. From the sinus there is a small amount of purulent discharge, smelling of urine, but it does not amount to more than a few drachms in the twenty-four hours, and is but a slight inconvenience.

I have placed before the patient the alternative to his present condition, viz: nephrectomy, but he is so well able to do his work and to get about that he declines to have any further operation done at present.

My explanation of the origin of the cyst is as follows: The injury referred to lacerated the kidney-substance, the split running into the pelvis, and, as no blood was seen in the urine, the ureter was probably plugged with clot. Hæmorrhage then, with retained urine, distended the pelvis of the kidney, and in all probability caused atrophy of the kidney-substance to a considerable degree. After the operation, when the cyst was suppurating profusely, the urine passed from the bladder became ammoniacal, and contained phosphates and bacteria, so there was probably a communication reëstablished between the remnant of the kidney-substance and the bladder, though it is doubtful if that still exists, as the urine is and has been for a long time acid, and free from phosphates, etc., whilst there is still a purulent discharge from the sinus.

THE SELECTION OF CASES OF INSANITY FOR DIFFERENT METHODS OF PRIVATE CARE.

By Henry R. Stedman, M.D.,
of Boston.

The time-honored warning against delay in removing a patient who is insane to an institution for that class—based, as it is, on the most conclusive evidence as to the great preponderance of recoveries in cases of early admission—is still needed, although statistics show much improvement in this respect of late years. This advice, however, applies with much less force to the well-to-do than to the poor ; but owing to the fact that early commitment to a public asylum is highly advantageous to the poor—for whom home or private care is, as a rule, impracticable if not impossible—and as the dependent class comprises, of course, the bulk of the insane, this custom has come to be looked upon by many as indicative of early asylum care for all classes—to the exclusion of non-institutional methods which, when properly selected, are attended with equally good results. The injunction should be, therefore, to place the patient as early as possible under treatment suited to the individual case, whether in an asylum or outside its walls.

The numerous requirements for satisfactory treatment and care of the insane, especially the private class, call for a variety of methods; but these are necessary and obtainable without as well as within the asylum. The former are of the natural, private and domestic order suited to the wants of the individual; the latter of a more artificial, public and official nature indispensable to the organized care of a large number. Each of these forms of care has its advantages, although the hospital for the insane, with its varied means of treatment, its safety, skilled attendance, regular exercise and mode of living, the administration of medicines and regulation of diet, has a great advantage over private care and treatment of the mass of the incurable, and a large proportion of the presumably curable, insane. It is almost unnecessary to say that there are more insane patients cared for at home, who from their lack of means would be benefited by asylum care, than there are inmates of asylums who would have been better situated under other surroundings. Still, we should recognize the fact that each kind of care has, besides its appropriate cases, certain unsuitable ones which should be in the other class, and that achievements in hospital construction, appliances and methods generally, and the advances thereby made in alleviating insanity, have attracted attention away from the *modicum* of good that is to be found in other surroundings.

Moreover, it is by no means an easy matter to strike the correct balance between the patient's well-being, physical and mental, and his happiness.

The former he may receive in a hospital, and it would often be a mistake to advise any other course; but there are many cases of the more appreciative class for whom outside care, though more difficult, is more comfortable, as conducive to happiness from more congenial surroundings.

Although we may not all be willing to follow Maudsley to the extent of accepting his dictum "that all the comforts which an insane person has in his captivity are but a miserable compensation for his entire loss of liberty—that they are petty things which weigh not at all against the nightly suffering of a life-long imprisonment," we should do well to keep in mind the necessity for the fullest freedom that is compatible with the welfare of the insane person, and the fact that to quiet and regularity of life may often be added the enjoyment of a comparatively domestic environment without detriment to the patient's condition or the safety of others.

But by far the most potent reason why the physician should be acquainted with the various expedients for caring for the insane person privately, is the injury to the patient's future career from the unjust and often absurd popular prejudice about hospitals for the insane. If a patient can be treated out of an institution and recover, it is better for the physician and for him. Often no alternative is left us than to cast about for the next best place for one for whom asylum care would be far preferable, but whose dread of an asylum life is as unconquerable as it is unreasonable. It is an axiom, also, that, given the means and knowledge of proper treatment, one cannot receive the same personal care when he is one of a large number as when treated alone, or with but few others, although there are certain insane patients whose self-feeling is so great that they are better off for finding that they do not receive more attention than others around them.

Again, the presence of a large number of insane people exerts, in many cases, a depressing influence which may be a serious drawback to improvement, not to mention social and other differences, which would keep them apart if they were well. While there are recovered patients who recall with the greatest pleasure their asylum experience, there are many more who fear a second attack chiefly because it means a return to a place that they only think of with dread. This is often true to some extent of any surroundings in which they may have been treated, but in the various gradation of methods from asylum to home care, I think the feeling is less strong as we reach the latter.

Private care and treatment may be had—

1. In travel.
2. At home.
3. In specially provided private quarters (single care).
4. At small private establishments for mental disorders.

To select appropriate cases for these different methods, without

including those for whom the asylum is best adapted, is no easy matter, for no rules can be laid down, patients are so variously disordered in mind and so variously circumstanced. Consequently, only general suggestions are offered, which in many instances may require modification to meet the special circumstances of individual cases.

It is very largely a question of means whether a patient should be treated in either of the ways indicated or at an asylum. The more violent, difficult and prolonged the case, the greater the expense. The worst cases can be cared for in special private quarters with a sufficient number of nurses and frequent medical visitation—although even the continuously disturbed incurable cases and the desperately homicidal, suicidal or self-mutilating can never be managed privately with anything like the efficiency of a well-conducted asylum, with all its resources in the way of modern principles of treatment and arrangements adapted to the requirements of the present time. For, the moderately wealthy, the acute curable cases, and certain of the chronic class to be specified later, may properly receive private care, and a fair proportion of them at home, under proper supervision and nursing. Cases of the remaining forms of insanity in this station of life should, broadly speaking, have asylum care. If the patient be poor, the cases are rare that can with safety or benefit be kept from a hospital for the insane.[1]

But first, as to travel. This should be prescribed for cases that can hardly be called insane, as they are mainly on the threshold of mental disturbance. It is rare that the continued diversion and exercise attendant upon travel is of use when the disease has become pronounced (when actual delusions have set in), even though they occur early in the disorder. The most carefully selected early cases are benefited by travel, because brain-rest is usually the indication from the start rather than diversion and change.

I have known more than one melancholiac for whom travel had been tried at this stage who became bewildered by the frequent change of scene; irritated at having to meet people when they wished to avoid them, and were worse for the change. One patient, in addition to her other false beliefs, contracted the delusion that she was being taken about to different places to be exhibited. It is very hazardous, also, to advise travel for a patient in whom there is even a suspicion of suicidal intent, as it is impossible for the most careful to be watchful enough upon a journey.

Suitable cases for travel are for the most part those who are simply

[1] But even among the poor we meet exceptional cases where the delay of a week in proposed removal to the asylum has been attended with sufficient improvement to warrant the hope of a speedy recovery. Such instances, however, are only mentioned to emphasize what is possible in the way of home life for the insane, and to show that they sometimes do well *in spite of* their surroundings.

depressed, have been suffering from insomnia, who perhaps lack their former energy and interest in life generally, to whom petty annoyances have assumed the guise of great troubles, whose affection for their family is lessened, and who are in a lowered physical condition.

For such, travelling—preferably by land—is often beneficial. The object is to take the patient away from the painful subjects of thought about him at home, to awaken his interest, and to substitute new and pleasant ideas for morbid and distorted ones. A companion is essential. This is not a superfluous caution. Depressed patients will sometimes beg to be allowed to go away alone, as did a gentleman who came under my observation recently, and who, for want of proper insistence on the part of his advisers, actually crossed the ocean alone, but was so wretched that he fortunately returned on the next steamer. The companion should be cheery, tactful, and alert. A friend is better, as a rule, than a relative, who will be apt to let the patient have his own way too much. A young physician may be of great service. In the more anxious cases an intelligent nurse, if it can be managed, will help greatly. Travelling should be done by day to secure sufficient night rest. Fatigue should be avoided, it being better to remain in a few places of interest than to travel about and change the scene too frequently. Often a higher latitude than that in which the patient lives proves a tonic, while a southern climate is found too relaxing and depressing. Long sea voyages rarely prove useful: in most cases within my knowledge these have been failures, and Blandford finds that there is something about the seaside which tends to convert the preliminary stage of confusion and depression into wild excitement, and prefers for this reason to send patients for change to an inland place. Convalescing cases are particularly susceptible to the advantages of travel, and often gain faster in this way than in any other change. Another class who are especially benefited by slow travel or change to a country life, with plenty of fresh air, are mild cases of mental disturbance, due simply to the exhaustion of fever—post-febrile insanity.

Next, as to home care and treatment. Everyone knows that there are a large number of insane persons living at home, some comfortably situated, some among tolerable surroundings, and others wretchedly cared for. We also know of not a few patients who recover at home quite as quickly and thoroughly as do asylum cases. What is the character of these cases who do well at home, and how can we prevent their haphazard disposal, some at home and some in confinement? Which are the neglected cases that need asylum care?

If some very general laws can be indicated and followed as to the selection of cases, more would enjoy the liberty and comfort of home who should have it, and others the skilled treatment of a well-equipped hospital for the insane. As a step in this direction the form of insanity

must be considered, as well as the make-up of the patient's family, his attitude toward them, and the character of his surroundings generally.

But whatever the form of the malady or situation of the patient, it is often the amount and kind of attention the physician gives to the case that will ultimately determine between home and the asylum for the patient, and perhaps between recovery and confirmed insanity. This is not platitude. There is little doubt that more cases would do well at home if they were as carefully and regularly observed as are cases of physical disease. It is not enough to study an apparently mild case of melancholia occasionally and at long intervals; to have him come to the office, or to inquire of the family how he is getting along. It is a lack of attention to details, of close inquiry into the patient's line of thought, both from him and the members of his family, to ascertain the progress of the disease, that has made more than one case turn out disastrously. The fear of suggesting suicide to melancholic patients by inquiries in that direction I am convinced is exaggerated. I have never known it to occur, but on the other hand, the instances when occasional unobtrusive but minute inquiry of the patient and family as to this particular has been avoided, and disaster has come, may well make us consider whether one's whole duty is done when this precaution is not taken. The neglect of attention to the details of the patient's requirements has led to the disrepute into which home treatment of proper cases of insanity has fallen, quite as much as the attempt to treat unsuitable cases in that way. Home treatment for curable cases seems to me to bear to that of ordinary disease the same relation as does the capital operation and the after conduct of the case. It requires much time, constant watchfulness, attention to a variety of minor details and the summoning of special skill in emergencies. Before counselling home treatment, the feeling of the patient toward the members of his family is an important matter. If he has strong and increasing antipathies toward one or more of them, and dangerous delusions about them are persistent and uppermost in his mind, or if suicidal thoughts and attempts are prominent manifestations, little is to be gained and much valuable time may be lost in delaying his removal from home, unless the physician is prepared to convert the house into a hospital on the presumption that the case is a curable one. Often, however, the home feeling remains strong, as is shown at more rational intervals, and at no time is alienation from those dear to him appreciable. To such patients it is an immense satisfaction to have their friends at hand. Moreover, the influence of a relative in calming a patient can often be exercised by no other. Cases marked by great anxiety in which ordinary petty annoyances are so magnified as to weigh down and distress a patient are better for a change from home. The effect of the patient upon the family, also, is important. If he keeps the household in tur-

moil and wears upon his relatives so as to affect their health and spirits by the constant attention he requires, or unnecessarily exacts, home is not the place for him. It is sometimes best, if the patient remains at home, to send away any children there may be in the family, as they are an especial source of anxiety and unnecessary worry, particularly to a mother, because of their unthinking demands or because she imagines they are being neglected, and sometimes because there is danger to them from the mother's homicidal tendencies.

Melancholia, of all the forms of insanity, is oftenest treated at home, because cases of this variety are vastly more numerous than those of any other, because its manifestations are usually far less pronounced and less difficult to deal with, and because it is especially frequent in a mild form. There are quiet cases simply depressed, who for a long time are able to live in the family without harm, who perhaps have tried travelling and change of scene unsuccessfully. Their life can be regulated and made much more comfortable by the physician with intelligent help from the relatives, and nursing or companionship. But the mildness of an attack of melancholia is by no means incompatible with unexpected suicidal and other impulsive outbreaks, and here is applicable the attention to details advised above.

Besides close inquiry as to the possibility of suicidal ideas, the patient's heredity should be investigated. It is an established fact that this propensity is highly hereditary and colors the insanity of descendants in the large majority of cases. Melancholia without delusions is a fertile soil for such tendencies. I recall a patient in a large asylum who made repeated sudden and desperate attempts at self-destruction, who in the intervals was sociable and agreeable, though with a tinge of sadness, and appeared otherwise entirely rational, having no delusions whatever. In her case the family history was very bad as to suicide, but was ignored by her relatives when she became depressed until she suddenly attempted to hang herself, and nearly succeeded, when she was committed to an asylum, where it proved to be a marked suicidal impulse.

Other quiet patients are the *acute dements*, young people who usually make good recoveries. Their state of inertness—stupor—renders them good subjects for home care. They require to be dealt with in many cases like babies, as they cannot be roused to make the slightest exertion. Often it is only a matter of nursing. Here it is necessary to guard against injury by the struggles of certain of this class who resist doggedly all attempts of any sort to help them, as well as the sudden and most unlooked-for outbreaks which sometimes occur.

As to disturbed *violent cases of the acute, curable class*, there are more, especially among those in good circumstances, who should have the benefit of home treatment than is now the case. I fully accept Folsom's belief, who reports several instructive cases of this kind successfully

treated by him at their homes, in support of his opinion that many cases at least of mental disease are to be treated precisely like typhoid fever or rheumatism, or a broken leg, so far as removal from home is concerned, and that home associations are no more harmful in properly selected cases than in pneumonia or phthisis. When this course is adopted, the home must be converted into a hospital, and the case conducted methodically with the aid of nurses, or, in exceptional cases, members of the family. The patient should have apartments entirely separate from the rest of the family, especially arranged to meet the emergencies and other requirements of his attack.

In *insanity connected with the puerperal state*, when acute and recent, special exertion and sacrifice should be made to treat the patient outside of the asylum, not only to avoid the stigma of residence there, but because these are highly favorable cases for recovery and are usually of short duration. This applies to difficult, violent patients, as well as to the puerperal melancholiacs, the majority of whom are mild, easily-treated, transient cases. A special precaution is to remove the child from the mother in most cases as soon as possible and to watch her closely. Attempts to destroy the child are specially frequent and suicidal tendencies a common manifestation. The rare cases of insanity of pregnancy should unquestionably be kept at home, at least until after labor, to avoid the sad fate for the child of being born in an asylum.

Of chronic cases *senile insanity and dementia* is by far the best adapted for outside treatment and care. It is only the worst patients one sees at the asylum, while subjects of the milder states of senility in which there is decided mental complication are a numerous class and apt to be provided for at home. Old people, even when insane and regardless of their condition or surroundings, are often disastrously affected by a complete change from home. In consequence of their extreme age they are no longer receptive of new ideas or adaptable to a new environment. The same advice applies to the allied state of mental impairment following hemiplegia and similar attacks following destructive cerebral lesions.

The mass of cases of *insanity of doubt*, are cared for at home. Most of these are on a par with mild delusional patients, who rarely show except to their nearest friends their mental weakness. Very much may be done by the physician in the way of advice, assurance, encouragement, and consequent help to those doubting, but otherwise most intelligent patients, by keeping track of them, and methodically visiting them. Change of abode is often considerable help in these cases. It is only when their doubts become terrible fears that they have made, or will make, fatal mistakes, will contaminate others by their touch, etc., which lead them to take absurd precautions, which withdraw them from others, and interfere continually with their comfort and health—in short, put

them entirely out of harmony with their surroundings, that removal from home becomes urgent.

Chronic degenerative insanity is not often suitable for care outside the asylum, except during the initial stages, while the patient is comparatively appreciative. With the advent of delusions of suspicion comes often more or less violence, noise, self-neglect, refusal of food, destructiveness, perhaps—conditions which cannot be properly met by ordinary means.

There are certain classes of cases the treatment of which is often improperly tried at home. I refer to *hysterical insanity and dipsomania.* The former rarely improve until they come under systematic control and judicious neglect—unless years are consumed in the process—whereas asylum care and discipline will sometimes give young women so afflicted a wonderful and speedy start in health and control.

Cases of dipsomania, although not properly coming into the category of insanity, are surpassed in difficulty of management by few of the actually insane, and in far-reaching effect of the malady upon the patient and his family: 1. Because of the length of time before their condition is realized, and the credulity of the family in the victim's promises of reform, and particularly by the fond mother's natural trust and long-sufferance of the son's disgraceful life, which fatally delays proper treatment. 2. The absence of proper provision for such cases in the shape of a closed asylum exclusively for that class, under a board of disinterested trustees and State control. 3. The difficulty of keeping them in a lunatic asylum when once committed thence, owing to their cunning, the dislike of the medical officers for that class of cases, who are a disturbing and otherwise trying element, and the importunities of the patient, and his relatives sometimes, before he has become sober. Advice of great value is not to be had concerning these patients under these circumstances. All that I can say is, that a State lunatic asylum to which the patient is legally committed, as is the case in Massachusetts, is after all by far the best place for him; that the friends should be discouraged as long as possible from removing him, and the superintendent begged, as often as we can decently do so, to keep him there. Small private asylums, particularly where there are insane inmates, are unsuitable places, and but temporary makeshifts, for the inebriate class.

The separate care of *acute cases of insanity* in a house or villa hired for the purpose—what is called single care—is practised but little in this country. In England it is more in vogue, and looked upon as specially valuable. The treatment should be undertaken in a house belonging to a physician, or in a private house taken by the friends for the purpose. It is essential that the attendants should be under immediate control and supervision of the physician to whose hands the patient's care is entrusted. It is perfectly easy to manage matters for excitable and even noisy and violent patients, if the house be in a quiet neighborhood, and

with the advantage of perfect privacy. This method is practically the same as that of turning the house into a hospital, except that the latter course is best adapted to a milder class of acute cases.

The small private establishment for nervous and insane cases stands as a means of care between the home and the large asylums. Many patients whose surroundings in a variety of ways are unsuitable for the separate hospital-at-home care, the milder acute, and presumably curable cases of mania and melancholia, are best treated in this way. The patient's family, for example, is scattered, and no single member is ready to bear the anxiety and be responsible for the patient's care at home, and its expense. The case may be of too severe a type for home management without greater sacrifice than the family is willing to make, and they shrink from sending him to a large asylum. The patient has possibly been living at home until he has grown too difficult to have in the family, who have been tried to the utmost. The anxiety and care may be telling upon the health of the husband or wife. Beside recent cases there are varieties of the chronic class of insanity, the subjects of which can be made very comfortable in this way. Examples of suitable cases are the man or woman with fair intelligence, but deficient self-control, whose mind is weakened (congenitally, or by an attack of insanity), for whom family life has proved unsuccessful, owing to bad tendencies and mistaken indulgence; the case of doubting insanity which has gradually grown to dread everything, and by whom no authority that can be exercised at home is respected. Hysterical and neurasthenic cases, of a severe type, are often most amenable, when thus situated away from too sympathetic friends, and under control amid fairly congenial surroundings. The demented general paralytic can be treated at a well-conducted home-hospital of this character, where separation of uncongenial patients is available, at considerable saving of family worry, mortification and expense. The life of the chronic melancholiac, so situated, can also be made fairly bright; many border-land cases, also, for whom domestic life has proven a failure, are especially susceptible to guidance and control, when exercised among such conditions in a semi-domestic environment. Such establishments thrive largely on a public dread of asylum-care for a relative, as well as upon the greater privacy to be secured by the method. For the same reasons, patients are often sent from home to irresponsible people for care, who are subject to no supervision themselves, and seek for no medical advice for the patients under their charge. Without a resident physician, none of the classes mentioned can be properly treated in a home devoted to the care of the insane, and expert supervision, capable nurses, companions or attendants to meet the requirements of widely different cases, as well as regular inspection by State medical officials, are essential for the best results. The public, or large private asylums, are subject

to public scrutiny, and have supervisory boards, which divide to some extent the responsibility of the patient's care with the medical head of the institution. Consequently, although, largely, each is what its superintendent makes it, and each has its individual merits, a good and fairly uniform standard of care is reached by all. But the smaller private hospital is conducted largely according to the individual ideas of the physician in charge, so that the standard of care varies greatly in different places, and greater pains must be taken to ascertain how the establishment to which a patient is to be sent is conducted, and only that having the essentials of the most appropriate methods should be selected.

The situation of the patient's future abode is always a matter of importance. Some do better whose friends live near at hand, and can visit them often. Others, for whom visits have proved inadvisable, are constantly unsettled by the thought that their family is within easy reach but that they cannot go to them. Consequently, a distant residence is preferable. The disposal of the patient varies also according to the stage of the disorder in other ways than those mentioned. Just as there are patients who should enjoy family life, during such a time, in the initial stages, as they are appreciative and not unsettled, but for whom too long delay in commitment to an asylum is dangerous, so there are others who require asylum care and no other at the outset, but who should have a trial at home later, the opportune moment for which should be seized without delay. This includes many in the early stage of convalescence (for whom travel is not advisable) when the home can be properly arranged for their reception, as it may often be well to avoid too great a strain by the change involved in a complete resumption of family life and duties at once. Emergence from an attack of insanity to the unfamiliar surroundings of an institution, although rarely actually disastrous, should be prevented if possible. As to the chronic insane in asylums, the more I see of them the more I am impressed with the good effects of change in individual cases. Of course, the proportion to be safely removed from the asylum is small, and of these but a small number will remain away long if not kept under a physician's observation. Still, there is room for improvement in the way of trial outside of the asylum. Even when it does not succeed, the satisfaction of giving the patient another chance before dooming him for life to separation from the world is great, and the effect such a step has in gaining and keeping the confidence of the patient is a great help to all concerned.[1] The experience gained in boarding out in private dwellings the chronic harmless insane

[1] For further advice on this point, a recent article by Schüle on the "Value of Early Discharges from Asylums," is useful. (Report of the annual meeting of German alienists at Berlin, September 17 and 18, 1888.)

taken from asylums in this and other countries, indicates the possibilities in this direction.

A great deal might be written upon the details of treatment peculiar to the kinds of care here considered, but it only remains to be said that modern asylums, under progressive management, by introducing new styles of buildings and arrangements looking to the greater segregation of the insane, are doing much to fill the want of natural domestic surroundings.

THE MALARIAL ELEMENT IN OÖPHORALGIA.

By H. C. Coe, M.D.,
of New York.

The terms "oöphoralgia" and its hybrid synonym "ovaralgia," have been used somewhat vaguely to describe pain in the region of the ovary which does not seem to be due to actual disease of that organ. Olshausen is the only writer on diseases of the ovaries who devotes a separate chapter to oöphoralgia, which, with Charcot, he seems to regard as a hystero-neurosis. Now, I know no reason why we should not regard certain pains in the ovarian region as purely neuralgic in their character, even though they may be primarily due to disease in or around the ovary which is not appreciable clinically. The question of the anatomical cause of ovarian pain I have discussed at length in a paper in Wood's *Reference Handbook;* it is sufficient to state that I believe it to be more frequently of extra- than of intra-ovarian origin, *i. e.*, it is due rather to the inclusion of nerves in perimetric adhesions than to the pressure upon terminal filaments by cicatricial tissue within the diseased gland, as is shown clinically by the relief afforded by separating such adhesions without removing the affected ovary. The subject of ovarian pain, whether menstrual or inter-menstrual, assumes no little importance from its bearing upon abdominal section, though happily it is now, *per se*, seldom regarded as a sufficient indication for laparotomy. Contributions to the palliative treatment of ovarian troubles should always be welcomed, and this is my excuse for presenting the following case:

Mrs. M., aged twenty years, was first seen by me four years ago, soon after she had had an abortion at six weeks. She was suffering with severe pain in the right ovarian region, unaccompanied by evidences of acute inflammatory trouble. Examination showed well-marked anteflexion, with prolapse of the right ovary, the gland being neither much enlarged nor especially tender. Her husband, himself a physician, treated her locally, and she was soon up and about. She had had moderate dysmenorrhœa before marriage, which continued afterward,

but was relieved by dilating the os internum just before the flow. Two years later she became pregnant again, and I delivered her by high forceps without local injury, except a slight laceration of the cervix. Her convalescence was normal. The prolapsed ovary gave her some trouble during her pregnancy, but was not tender when I examined her three weeks after labor, and introduced a pessary in order to correct a tendency to retro-displacement and prolapsus. I treated her several times for the ovarian tenderness, but after a few months the pessary was removed, and she menstruated without pain, provided that the os internum was dilated, as before, previous to the flow, for the anteflexion persisted. Eight weeks ago I was called to see her. She had been in excellent health for several months, menstruating regularly and without pain. Her monthly flow had begun the day before, and was followed by severe lancinating pains in the right ovarian region, which radiated down the back of the thigh and across to the opposite groin. The patient is more than usually courageous, and certainly did not exaggerate her symptoms. She possessed a marked tolerance for analgesics, and was given large doses of morphine, antipyrine, and antifebrin, with only temporary relief. On palpating the abdomen I found extreme tenderness over the right ovary, while by the vaginal touch the organ could be felt distinctly enlarged and very sensitive. No rise of temperature or acceleration of the pulse. Diagnosis: Congestion of the ovary, the cause being unknown.

I advised hot applications over lower portion of abdomen, hot vaginal douches, and phenacetin, ten grains, to be repeated in an hour. No relief was obtained, and it was necessary to give Majendie ♏xx during the night, to render the pain bearable. Next day the mild galvanic current was employed, one sponge being placed over the sacrum, the other over the right ovarian region; it increased the pain, and was discontinued. As menstruation had ceased, glycerin tampons were used with the idea of supporting the enlarged ovary. They afforded only temporary relief. The patient at this stage became very much discouraged, and began to wonder if oöphorectomy would not be necessary.

After three or four days of ineffectual treatment, I noticed that the pain seemed to be most severe in the afternoon, that it reached its acme during the night, and gradually subsided during the morning hours. Careful inquiry developed the fact that the patient had had a well-marked attack of intermittent fever of the quotidian type a few months before, which yielded to twenty-grain doses of quinine in two or three days. The chill occurred in the afternoon. There had been no history of malarial neuralgia since then, but, noting the apparent periodicity and neuralgic character of the ovarian pain, I determined to test the value of quinine. On the following day twenty grains were given in the forenoon; the pain was much less severe, so that the patient was able to sleep without an anodyne. A repetition of the dose on the next day resulted in a complete disappearance of the usual sharp, lancinating pain, only a soreness remaining at its former site. On the third day the dose of quinine was reduced to fifteen grains, and on the following day to ten, which was given daily for a week. *The pain did not reappear.* The patient came to my office at the end of ten days, and reported herself as feeling well, and able to walk half a mile without pain or weariness. Local treatment (tampons and galvanism, with hot douches) was employed for a few days and was then discon-

tinued. The next menstrual period was unattended by pain in the ovarian region. At the time of writing the patient is feeling as well as ever.

A somewhat extended search through the literature has failed to reveal a similar case of ovarian neuralgia which showed such an evident paludic origin, and yielded so promptly to pure anti-periodic treatment. In all other treatment in which quinine was employed it was given in small doses (two or three grains), combined with morphine, aconite, or muriate of ammonia, and there was no malarial history. While the paroxysms of pain in the case reported were, doubtless, at the outset due to ovarian congestion, it does not militate against the fact that they showed a marked periodicity in their onsets. The fact that they were absent at the succeeding period is, in my opinion, a proof that the malarial poison had been overcome by the thorough course of quinine. It might be attributed solely to the effect of the local treatment during the intermenstrual period, were it not for the fact that the patient had been under similar treatment before, and had felt perfectly well up to the time of her attack of dysmenorrhœa.

It seems to me that we are justified in regarding this case as one of malarial neuralgia affecting the nerves in and around the ovary, and comparable with similar neuralgia of the trifacial, except that here the pain was undoubtedly due to actual organic disease; but it assumed a periodical character through malarial influence, and was controlled by quinine.

THREE HUNDRED CASES OF INTUBATION OF THE LARYNX FOR DIPHTHERITIC CROUP.

By Dillon Brown, M.D.,
of New York.

In the following pages it will be my aim to present an accurate report and analysis of the croup cases which have been seen by me since my last paper[1] was prepared.

This report includes the results not only of the cases which were operated upon, but of every case of laryngeal diphtheria which came under my care during this period of time.[2]

[1] New York Medical Journal, March 9, 1889.

[2] In the thirty-three cases of recovery, the names of the attending physicians by whose courtesy I was enabled to operate are: Drs. C. W. Bohmfalk, H. G. Lyttle, G. V. Hann, J. Lewis Smith, J. Lewis Smith, Jr., J. A. Roth, D. H. Stewart, G. C. H. Meier, G. D. Spor, J. R. Cypert, S. S. Jones, T. B. Columbia, Beverley Robinson, W. H. Lyons, Leo Schnepp, M. M. Dunton, A. Y. Reid, D. F. King, G. F. Morris, B. G. Strong, DeWitt Hitchcock, J. H. Lurie, and J. Henry Fruitnight.

SUMMARY.—Each case occurred in the practice of other physicians, through whose courtesy I was called in consultation. Sex: Males 48, of whom 18 recovered; females 52, of whom 15 recovered. Total, 100 cases, with 33 recoveries. Of these cases 65 were treated with full doses of the bichloride of mercury, and 18, or 27.6 per cent., recovered, while 35 were treated on the expectant plan, or with some preparation of iron, and 15, or 42.8 per cent., recovered. In every case it was considered of primary importance to give as large an amount as possible of food and stimulants. It should, however, be remembered, in considering these results, that during the past year the internal use of the bichloride of mercury in the treatment of laryngeal diphtheria has been very widely practised, and its advocates may claim, and do claim, that under its use an operation became necessary in a much smaller proportion of the cases, and that, therefore, operative interference was needed only in the unusually severe cases which were not controlled by this drug.

Average age, three years six and three-quarter months; of those that died, three years five months; of those that recovered, three years eight months (one adult case was omitted in this calculation). In fatal cases the average length of life after intubation was two days and two hours; in cases of recovery, the average time of tube in the larynx was six days and ten hours. Urine contained albumin in 51 cases, no albumin in 7 cases, and was not examined in 42 cases. At the time of operation twenty-one of the patients were suffering from severe sepsis, and others had the laryngeal diphtheria complicated by measles, scarlet fever, pregnancy, pneumonia, bronchial diphtheria, and pertussis.

During the period of time covered by the foregoing summary, namely, October 28, 1888, to November 30, 1889, in addition to the cases of laryngeal diphtheria, the details of which are given in the notes, I was called to see twenty-nine cases of diphtheritic laryngitis, besides a number of cases of dyspnœa, due to catarrhal disease, two cases of pneumonia, four or five cases of naso-pharyngeal obstruction from diphtheria, one from post-pharyngeal abscess, and one from a combination of enlarged tonsils and adenoid vegetations in the vault of the pharynx. Of the cases of laryngeal diphtheria, three died before my arrival,[1] fourteen recovered without operation, it being decided by the attending physician and myself that it would be wiser to defer the operation until the stenosis became more severe. Of these cases two occurred in my own practice, and the remaining twelve in the practice of others.[2] Eight had undoubted laryngeal diphtheria, but the obstruction as

[1] One with each of the following gentlemen: Dr. Osgood Mason, Dr. H. D. Chapin, and Dr. DeWitt Hitchcock, of Long Island City.

[2] Dr. H. G. Lyttle, Long Island City, Dr. G. V. Hann, Dr. David Froelich (2), Dr. G. D. Spor, Dr. R. B. Talbot, Dr. Bernard Hughes, Dr. E. V. Silver, Dr. D. H. Stewart (this case also had pneumonia), and Dr. Leonard Weber.

shown by the strength and extent of the respiratory sound, was not sufficient to cause danger, or even discomfort, and therefore an operation would have been of no advantage, but rather the reverse. Of these cases all died.[1]

Notes on Cases.

201. There was well-marked evidence of pulmonary invasion, as shown by high temperature (105° F.), rapid respiration and a dry, boardy respiratory sound. For one month after the removal of the tube, it seemed as if the child might die at any time from diphtheritic marasmus, but the appetite slowly returned and he finally made a good recovery. Patient of Dr. C. W. Bohmfalk.

203 and 204: brothers. These children lived in Astoria. In the first case, membrane was expelled through the tube after the operation; and, in the other case, membrane was coughed up before the operation. The latter was a case of ascending croup, beginning in the trachea and extending up to the subglottic region of the larynx, but not involving the cords. This accounts for the clear voice and the short duration of the dyspnœa, in spite of the fact that the obstruction to respiration was extreme and there was positive evidence of membrane in the larynx. Patients of Dr. H. G. Lyttle.

208. Membrane was coughed up shortly after the insertion of the tube. At the time of operation it seemed like one of the most hopeless of cases. Patient of Dr. J. A. Roth.

209. A brother and a sister died the same week from diphtheria, but in neither case was the larynx involved. Patients of Dr. R. B. Burton.

210. Membrane appeared, for the first time, on both tonsils three days after intubation. The child did well and the tube was removed on the eighth day, although membrane was yet present in the pharynx. For thirty hours the child was bright and playful, and he was apparently doing well. Suddenly there was a rapid rise of temperature, and the patient died in thirty-two hours from an extension of the diphtheritic process to the bronchi. Patient of Dr. J. C. Schmincke.

213 and 215. Both hopeless septic cases from the outset. Patients of Dr. R. B. Burton and of Dr. Branch Clark.

216 and 217: brothers. Hopelessly septic cases. Patients of Dr. H. G. Lyttle.

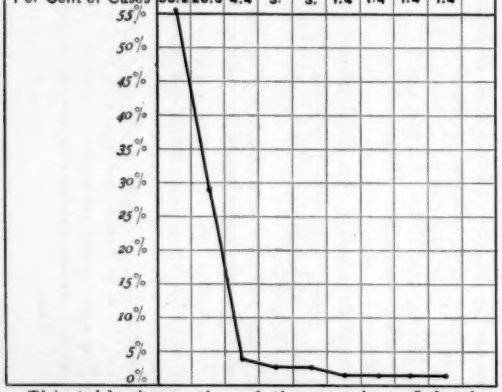
218. Several days before this child became ill, a brother, aged eight years, died of diphtheria; and following this child's death the mother was taken down with a severe attack from which she recovered. Patient of Dr. E. A Bracklow.

220, 222, 227 and 228 were absolutely hopeless cases. The operation was done to relieve the suffering of the patients. Patients of Dr. R. H.

[1] One was seen with Drs. J. Lewis Smith and Dr. C. J. Dumond, one with Dr. Leonard Dessar, one with Dr. M. Vinton, one with Dr. S. B. Allen, one with Dr. H. N. Vineberg, one with Dr. J. H. Ripley and Dr. L. Emmet Holt, one with Dr. DeWitt Hitchcock and Dr. B. G. Strong, and one with Dr. J. Lewis Smith and Dr. Henry Griswold. Four cases refused permission to operate. All died, as follows: Two with Drs. R. B. and A. I. Burton, and one with each of the following physicians: Dr. J. H. Lurie, Dr. G. V. Hann.

TABLE I

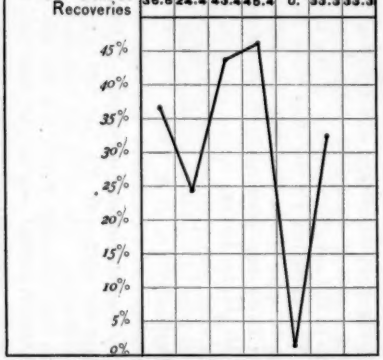
	Extension to Bronchi	Sepsis	Sudden Heart Failure	Pneumonia	Exhaustion	Uræmia	Scarlet Fever	Asphyxia	Œdema of Lungs	Total
Number of Cases	37	19	3	2	2	1	1	1	1	67
Per Cent of Cases	55.2	28.3	4.4	3.	3.	1.4	1.4	1.4	1.4	



This table shows the relative number of deaths from each cause.

TABLE II

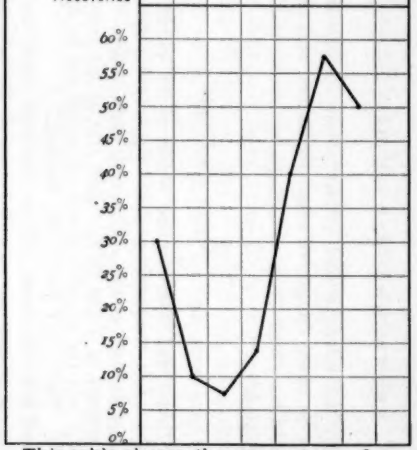
	1 to 2 days	2 to 3 days	3 to 4 days	4 to 5 days	5 to 6 days	6 days and over	Total
Number of Cases	19	41	23	11	3	3	100
Per Cent of Recoveries	36.6	24.4	43.4	45.4	0.	33.3	33.3



This table shows the percentage of recoveries according to the duration of laryngeal symptoms before operative interference became necessary.

TABLE III

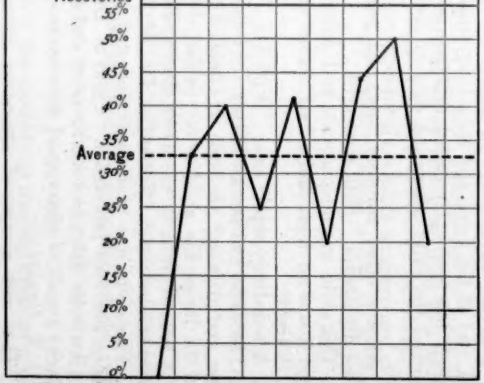
	1 to 2 days	2 to 3 days	3 to 4 days	4 to 5 days	5 to 6 days	6 days and over	None	Total
Number of Cases	10	10	13	7	5	19	12	76
Per Cent of Recoveries	30.	10.	7.7	14.2	40.	57.8	50.	



This table shows the percentage of recoveries according to the duration of pharyngeal or nasal diphtheria before operation became necessary.

TABLE IV

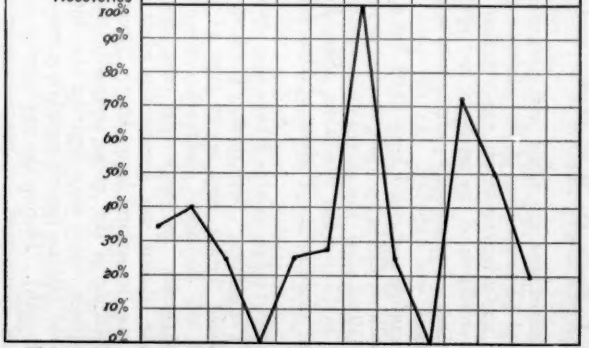
	Under 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	5 to 6 years	6 to 7 years	7 to 8 years	8 years and over	Total
Number of Cases	5	18	20	20	12	5	9	6	5	100
Per Cent of Recoveries	0	33.3	40.	25.	41.6	20.	44.4	50.	20.	33.3



This table shows the percentage of recoveries according to age.

TABLE V

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Number of Cases	12	10	12	6	8	7	2	4	3	7	14	15	100
Per Cent of Recoveries	33.3	40.	25.	0.	25.	28.5	100.	25.	0.	71.4	50.	20.	33.3



This table shows the percentage of recoveries for each month.

Hayes, Dr. M. L. Healy, Dr. E. M. Moffett, and Drs. A. Jacobi and S N. Leo.

226. This patient was an adult and pregnant (sixth month). No membrane could be seen either in the pharynx or nares at any period of the illness; and a laryngoscopic examination by Dr. Ripley showed an œdematous condition of the epiglottis and ventricular bands, but no pseudo-membrane. Immediately after intubation, a large cast of pseudo-membrane was expelled. At the time of the operation the patient was comatose and could have lived but a short time. The tube was inserted without difficulty while she was lying on her back in bed. She quickly rallied after the obstruction was removed, and in a few hours seemed to be in a fair condition. She died in forty-two hours from bronchial diphtheria. Patient of Drs. John Ripley and F. A. McGuire.

During the last twelve months I have seen two other cases of laryngeal diphtheria in adults. Both died. The first case, with Drs. Ripley and Holt, suffered from a very severe type of pharyngeal diphtheria, and, although the laryngeal obstruction disappeared, she died from bronchial diphtheria. In the second case, the disease began in the larynx and the patient was unconscious when operated upon by Dr. O'Dwyer. I saw her several hours later. There was moderate adenitis with great swelling of the neck, especially anteriorly. A moderate amount of dyspnœa due to some swelling over the top of the tube. The pharynx was red but no pseudo-membrane was visible. She was pregnant (fourth month). During the next twelve hours most of the swelling of the neck disappeared, but pseudo-membrane covered part of the soft palate. She was conscious and in very good condition, but had not the least recollection of the operation or our visit in the evening. Two days after the operation she aborted, and three and a half days after the operation she died of bronchial diphtheria.

232. This case was followed by paralysis of the ocular and pharyngeal muscles, and of the legs; and for a long time remained in that condition which has been aptly called diphtheritic marasmus. The mother, who nursed the child, afterward died of diphtheria. With Dr. G. V. Hann.

233. All the other children (two) had pertussis followed by scarlet fever and diphtheria. Both recovered.

234. This child was unconscious and pulseless at the time of operation, and it was an hour and a half before she began to rally. With Dr. D. Schmidt.

237. A hopelessly septic case. With Dr. J. A. McLoughlin.

242. The child had marked sepsis. At the time of operation it was pulseless, and although the tube was quickly inserted and plenty of air entered the lungs, the child never rallied, dying in about fifteen minutes. A second child in the same family, older and not septic, recovered after tracheotomy. Patient of Dr. W. B. Pritchard.

241. This child was profoundly poisoned by the diphtheria, and convalescence was very protracted. Child of Dr. H. G. Lyttle.

246. An older sister had scarlet fever and diphtheria, and the mother had a mild attack of pharyngeal diphtheria. Both recovered. Patients of Dr. J. R. Cypert.

247. This was a case of ascending croup. With Dr. Alexander Hadden.

253. Followed by paralysis of eye, pharyngeal and leg muscles. Patient of Dr. J. Lewis Smith.

259. Another child convalescent from diphtheria.

260. During the course of this attack, there were seven apparently complete casts of the trachea coughed out. Most of them had bronchial branches. Patient of Dr. Wooster Beach.

261. A large cast was coughed out through the tube. Patient of Dr. A. B. Pope.

274. There was undoubted bronchial invasion at the time of operation. Marked sepsis. With Dr. E. J. Ware.

275. Unconscious before operation. She rallied in about half an hour. Patient of Dr. J. Harvie Dew.

277. On account of loose membrane below the tube, which the child was unable to expel, I did tracheotomy. Patient of Dr. Charles Milne.

285. There were three casts of the trachea with bronchial branches expelled, the second of which had branches from the sixth division of the bronchi. This was such a remarkable specimen that I have carefully preserved it. With Dr. G. D. Spor.

288 and 290 were hopeless cases. With Dr. J. L. Smith and Dr. D. L. Hubbard.

287. This is the only case I ever saw die during the operation. There was no trouble to place the tube in the larynx, but, at the beginning of the operation, the child was pulseless, and from the temperature and other evidences of pulmonary invasion, was hopeless. There was loose membrane in the trachea, and the child being unconscious, it was unable to get rid of it. With Dr. Henry Muhlfeld.

296. There was evidence of bronchial diphtheria before operation. Patient of Dr. John H. Ripley.

294. Four days before intubation the mother gave the baby a teaspoonful of spirits of ammonia by mistake for lime-water. Hoarseness and dyspnœa appeared in two hours, which gradually grew worse with only slight intermissions, until operative interference became necessary. At this time there were patches which simulated pseudo-membrane on the tongue, and the pharyngeal and buccal mucous membrane, and the child had quite an extensive pneumonia, with a temperature of 104° F., pulse 144, and respiration very rapid. Patient of Dr. G. F. Morris.

CHRONIC PURULENT OTITIS MEDIA AS A CAUSE OF PERSISTENT FACIAL NEURALGIA.

EDWARD B. DENCH, M.D.,
AURAL SURGEON, NEW YORK EYE AND EAR INFIRMARY.

OWING to the rich nerve-supply of the tympanic cavity, any pathological condition of its lining membrane, as we might naturally expect, may be attended by complex nervous phenomena. Thus Toynbee[1] cites a case in which a rupture of the membrane was the cause of a sensation

[1] Diseases of the Ear, London, 1865, p. 184.

of cold in the end of the tongue, while Moos,[1] Wilde,[2] and Urbantschitsch[3] cite cases in which irritation of the exposed chorda tympani caused abnormal sensations in the tip of the tongue. Brunner[4] and Urbantschitsch[5] mention cases in which division of the chorda tympani caused total loss of taste in certain portions of the tongue, the function gradually returning to a greater or less degree; while McBride[6] reports a case in which the removal of an aural polyp was followed by almost complete loss of the sense of taste in the corresponding side of the tongue. Carl[7] observed in a case of chronic purulent otitis media, that there was perversion of the sense of taste in the anterior two-thirds of the tongue. Following in this line, Urbantschitsch[8] investigated fifty cases of purulent otitis media, with the result that, in nearly all, more of less perversion of the sense of taste existed upon the affected side.

In all of these observations the sense of taste was affected, but we find no mention of any pain. In a case reported by Noyes,[9] in addition to the perversion of taste, there was a feeling of fulness and heaviness in the affected side of the head. Hartmann,[10] quoting Moos, states that trigeminal neuralgia may be an accompaniment of acute purulent inflammation of the middle ear, of chronic mastoiditis, or of cholesteatoma. Roosa[11] mentions that pain in the ear, unaccompanied by any gross lesion, is probably due to some pathological condition of the branches of the trigeminus within the tympanic cavity, but I find no mention, in his work, of neuralgia of the trigeminus accompanying a chronic otitis media either of the catarrhal or purulent form. Gruber[12] cites a case reported by Guerder in which neuralgic pain in the maxillary region, accompanied by an herpetic eruption and salivation, resulted from a catarrhal inflammation of the tympanic mucous membrane. Peck[13] reports a case of acute purulent otitis media, in which severe pain in the last two molars on the corresponding side persisted until the cessation of the aural trouble. The teeth were sound, and the author looks upon the pain as neuralgic, and caused by the inflammation within the tympanum. Jackson,[14] in reviewing the different nervous manifestations occurring in the course of chronic

[1] Arch. of Ophth. and Otol., 1869, vol. i. p. 140.
[2] Arch. für Ohrenheilk., vol. v. p. 235.
[3] Lehrb. der Ohrenheilk., Wien, 1884, p. 302.
[4] Zeit. für Ohrenheilk., vol. ix. p. 156.
[5] Op. cit., p. 303.
[6] Edin. Med. Journ., 1880 and 1881, vol. xxvi. p. 902.
[7] Archiv. für Ohrenheilk., 1876, vol. x. p. 152.
[8] Op. cit., p. 302.
[9] Trans. of Amer. Otological Society, 1884, vol. i. p. 556.
[10] Krankheiten des Ohres, Berlin, 1889, p. 170.
[11] A Treatise on Diseases of the Ear, New York, 1885, p. 561.
[12] Lehrbuch der Ohrenheilk., Wien, 1888, p. 419.
[13] Independent Practitioner, 1883, p. 401.
[14] Lancet, 1877, vol. i. p. 415.

purulent otitis, makes the statement that neuralgic pain usually points to an acute exacerbation, but does not go into details.

A careful search through medical literature has failed to reveal any cases other than those cited above, in which a persistent facial neuralgia had its origin in a chronic inflammation of the tympanum, and for this reason I report the following case:

Mrs. M., aged fifty years, consulted me early in June, with the history that, about two months before, she had suffered with an attack of "la grippe" which had greatly impaired her general health. About two weeks before her visit she was seized with severe pain in the right ear, lasting about twenty-four hours, followed by a slight watery discharge, which at the date of the consultation had ceased, although the hearing remained impaired. This ear, upon examination, presented the ordinary appearances of an acute catarrhal otitis media, and under appropriate treatment its function was completely restored, and as it plays no further part in the history, will not be alluded to again. One week after this attack, and one week before her visit, the patient began to have considerable pain in the left ear, and the auricle became tender to the touch; for the relief of this pain, the patient had syringed the ear with warm water, but was obliged to discontinue the use of the syringe, as it increased the pain greatly.

When questioned, she stated that the hearing in the left ear had been dull for about six years, during which time she had been subject to attacks of severe facial neuralgia, involving principally the branches of the first division of the fifth nerve upon the left side; these attacks were more severe whenever she had a cold in the head. She also stated that there had never been any discharge from this ear, or any pain, until the present attack.

An examination of the left ear revealed the hearing much reduced both for the watch and for conversation, and bone-conduction better than aerial conduction. The auricle was tender to manipulation, and pressure in front of the tragus was painful. On introducing a speculum, the canal was found to be considerably swollen, especially along the posterior wall, although there was no localized focus of inflammation. A portion only of the anterior segment of the membrana tympani could be seen, and this was of a dead-white color. The remainder of the membrane was covered with a grayish-white mass, extending outward into the canal for a considerable distance. Gentle manipulation with the curette or cotton-tipped probe failed to loosen the mass. Under the assurance that there had never been any discharge from the ear, and no previous attack of pain, I proceeded to remove the mass in the canal with the syringe, but although no force was used, the entrance of the water was accompanied by severe pain. Another examination now revealed the entire membrane of a dull grayish-white color, calcified in places and adherent everywhere to the promontory; in the posterior superior segment there was a small opening through which the lining mucous membrane of the tympanum could be seen. This opening was not more than two mm. long and one broad. It was easily seen that the mass in the external meatus had hermetically sealed a perforation, and that by its removal the middle ear had been exposed. In view of this condition and of the history of slight pain the week before, the

patient was advised that there might be some discharge from the ear, and, the meatus being closed with cotton, returned home. The next day she reported that the ear had continued to discharge a thin, bloody serum since leaving the office the previous day. An examination revealed the fundus of the canal filled with serum, and drying this, a pulsating spot could be seen at the site of the perforation mentioned in the first examination; the drum membrane was reddened, swollen, and opaque, the handle of the malleus being scarcely visible.

For two days the ear was thoroughly cleansed, and boric acid was insufflated; under this treatment the discharge diminished, and the patient returned to her home, the directions being to keep the ear thoroughly cleansed with the syringe in case the discharge reappeared.

Four days later the patient again appeared. For two days she had suffered severe pain in the head and face, the latter being of a neuralgic character, and, as she expressed it, of the same kind that she had suffered from at intervals for the last five or six years; the discharge from the ear was still profuse. Examination revealed the canal much swollen, especially along the posterior aspect. Membrana tympani in much the same condition as at last examination, but at the site of the perforation there was a mass of granulation tissue, about double the size of a pin-head. Pressure on the mastoid was somewhat painful, and over the Eustachian tube decidedly so. A blister was applied over the region of the tube, extending upward over the lower two-thirds of the mastoid, and the patient was ordered to syringe the ear frequently with lukewarm water.

Under the above measures, together with the application of a solution of the perchloride of iron to the granulation tissue, and the subsequent insufflation of boric acid and alum, the granulation tissue disappeared, and the discharge diminished, but did not cease; the neuralgia also was much improved. Next, by means of a Blake middle-ear syringe, a few drops of a solution of silver nitrate, ten grains to the ounce, were introduced into the middle ear, through the perforation in the posterior superior quadrant. The fluid immediately made its way into the pharynx, and the pain, which was rather severe for the moment, soon disappeared.

Four days later the patient called and said that the discharge was much less—in fact, that it was giving her no trouble. She also remarked that there had been no neuralgia. A small amount of boric acid was insufflated, after thoroughly drying the ear, and the patient went out of town, and did not report for four weeks. During this period the ear had given her no trouble, and it had not been syringed, although, in this, the directions had not been carried out. Examination revealed a little thick pus in the canal, and upon wiping this away, granulation tissue was seen in the region of the perforation. A few applications of the perchloride of iron caused these to disappear, and at the time of writing, the discharge has ceased, and the patient is well. There has been no facial neuralgia since the ear began to improve, and the patient says that she has never passed so long a time without an attack, although the general health is no better, or perhaps not quite as good, as it has been in former years.

The membrana tympani, now that the discharge has ceased, shows clearly evidences of former purulent trouble, of long duration. It is calcified in many places, is adherent to the promontory throughout the

entire extent of the membrana vibrans, and, in addition to the perforation already mentioned, exhibits, in the anterior inferior quadrant, evidences of an old perforation, a little larger than a pin-point. This perforation is perfectly dry, and evidently adherent by its margin to the promontory, and has certainly played no part in the present attack.

Looking now at the history of the case, it seems only logical to conclude that the attacks of neuralgia, dating, as they do, from the time that the hearing first became impaired, were due to an inflammatory process in the middle ear, involving some of the branches of the tympanic plexus. The inflammation probably began in the upper part of the tympanic cavity, resulting in the perforation in the posterior superior quadrant, the covering of which I removed at my first examination. This process apparently continued for years, without the formation of enough pus to give rise to discharge, although that it spread to the atrium is probable from the old perforation in the membrana vibrans. Whether the acute exacerbation, from which she had suffered when she saw me for the first time, would have resulted in a discharge, had I not removed the crust covering the perforation, thus admitting air to the tympanic cavity, is only a matter of conjecture. Certainly, in view of the relief obtained from the neuralgic symptoms by the treatment of the aural trouble, the acute attack must be looked upon as a piece of good fortune.

I should not have related the details of the case so fully, had I not believed that trifacial neuralgia, as a symptom of chronic purulent inflammation of the middle ear with very slight discharge, was among the rarest of affections with which we are called upon to deal. Neither would I attribute the neuralgia to this cause, could any other reason be found for it. No other exciting cause existed, and in view of the almost instant relief afforded by treating the aural condition, it seemed hard to believe that they held any other relation than that of cause and effect.

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A CLINICAL STUDY IN THE DIAGNOSIS AND TREATMENT OF HYPERPHORIA,

WITH A REPORT OF FOUR CASES.

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In this paper I shall discuss one of the propositions enunciated by Dr. G. T. Stevens, of New York—namely, that hyperphoria is responsible for ocular and muscular anomalies, together with other abnormal

conditions of the nervous system less particularly defined, and shall attempt to show practically, in the history of a few cases, the value of this proposition.

Hyperphoria is properly defined as "that condition of the ocular muscles in which, with a minimum of tension, a deviation of one visual line above the other would result." In other words, it is a tendency to upward deviation of the visual axis of one eye when both are supposed to be fixed in a small luminous object, such as a candle-flame, at 20′ distance. The eyes are said to be at rest, or in equilibrium, when, without accommodation, the visual axes meet in a small object at the distance of 20′. They are not, it will be remembered, mathematically parallel, but the small angle at their point of fusion may be disregarded.

In hyperphoria there is a derangement of this parallelism by a clonic deviation upward of one of the axes (hypertropia), or by a tonic tendency to destroy vertical equilibrium (hyperphoria). This involves necessarily a lateral deviation—esophoria or exophoria, either or both (Eso., far; Exo., near). Since vertical fixation is unattainable, no incentive exists for equilibrium of the lateral muscles, and in fact it is not found, except as an accidental and transient manifestation.

To determine the presence of hyperphoria, a special apparatus is necessary. Lateral insufficiency may be detected by the Von Graefe test—inducing diplopia by means of a prism of 6° base down or up. On account of the weakness of the prism, a slight malposition or an approximation to the vertical position would not seriously affect the result. In dealing with the vertical muscles, however, it is necessary to use a prism of 10° or over, when a slight malposition of the prisms from carelessness of the physician or want of symmetry of the patient's head will vitiate the result. Such an apparatus is Stevens's Phorometer (for description see *Arch. Ophth.*, June, 1887). A recent improvement, the substitution for the double horizontal prism of a pair of rotating prisms, greatly facilitates the examination. It is independent of, and its readings are not vitiated by, moderate movements of the patient's head; it reveals the diagnosis instantly, and records the degree of deviation (under 6°).

In testing for hyperphoria, several examinations are demanded. The diagnosis cannot be made, in kind or degree, at one sitting, as the strength of the muscles varies from day to day, owing to temporary and modifying conditions, which may be general or local. Again, if spectacles are worn by the patient they must be accurately centred, or the results will be modified and the true diagnosis remain undiscovered. It has been my practice in cases of ametropia to make the distant tests without correcting lenses, unless the defect of vision is too great to allow of accurate observation, believing that hyperphoria is practically uninfluenced by

the condition of refraction, and that greater danger of incorrect diagnosis lies in lenses which are not accurately centred than in ametropia. Presbyopic correction, when worn, should be made for all near tests.

The symptoms of hyperphoria cannot be distinguished from the symptoms which belong to other muscular or accommodative strain, and while it is both interesting and instructive to note the presence or absence of the nervous phenomena which are attributed to this affection, no reliable or logical conclusions can be deduced from their enumeration which shall aid in the determination of the cause. They are partly local, largely reflex; the former including diplopia, pain, smarting, burning, etc.; the latter neuralgia, headache, chorea, insanity, epilepsy, palpitation, constipation, etc. My own experience in the treatment of the grave functional disorders of the nervous system, by means of the measures advocated by Stevens and seconded by others, does not permit me to form an intelligent opinion as to their efficacy. Such patients do not ordinarily consult the ophthalmic surgeon, but the neurologist; and although I have frequently examined epileptics and choreics for some evidence of ocular disturbance, it has thus far been my fortune never to have met with a case in which I could conscientiously advise prisms, or tenotomies, as the sole means of relief. On the other hand, the cases of hyperphoria which have been under my treatment have presented no symptoms of insanity, epilepsy, or chorea. They have complained, for the most part, of confusing the letters in reading, pain in the eyes, headache, photophobia, exhaustion following an evening at the theatre or a day's shopping, and of the other well-known complications of accommodative strain. They have been, with singular unanimity, free from mental or intestinal symptoms. From their own unaided description of their sufferings an accurate diagnosis could not be made, and this is true whether an error of refraction were associated with hyperphoria or whether it were hyperphoria in emmetropia.

Diplopia may or may not be present. It should be sought for by every known test, since its discovery is an important item in the diagnosis and treatment.[1] When diplopia exists, the diagnosis may be made by the relation of the two images to each other; when absent, the diagnosis cannot be made without a phorometer.

Do errors of refraction bear a causative relation to hyperphoria? That they do has not as yet been proved, and the assumption of such relation is therefore only speculative. The third nerve supplies the superior, inferior, and internal recti, inferior oblique, ciliary muscle, and iris. There can be no accommodation without convergence. How can there be convergence without simultaneous stimulation of all other

[1] For an elaboration of this part of the subject, see Stevens's article on Hyperphoria, in Arch. Ophth., June, 1887.

muscles innervated by the same nerve? The relation of accommodation to convergence is not disputed; the same relation must hold with the superior and inferior muscles. It must be remembered that these muscles average only one-fifteenth part of the strength of the internal, and yet, however slight, comparatively, their contraction may be, it must be considered. Convergence and divergence are the result of the action of two different nerves; upward and downward deviation, of one only: hence hyperphoria, which is a want of coördination between two sets of muscles receiving their nerve force from a common source, must owe its origin to others than those that operate in the development of eso- or exophoria. Speaking generally, internal squint is associated with and dependent upon hypermetropia; external squint, with and upon myopia. To neither of these errors of refraction can hyperphoria be attributed. That it is present in individuals who have H., M., and As., is no evidence that it arises from those conditions. Stevens's table (*loc. cit.*) quotes 100 cases of hyperphoria (200 eyes) among 45 Em., 42 M., 73 H., and 40 As., but proves nothing. The same figures may be equally well or badly used to demonstrate any other ocular or bodily ailment. Tables adduced in evidence that heterophoria and errors of refraction are the causes of functional nervous diseases—insanity, epilepsy, chorea—because maniacs, epileptics, and choreics have some refractive or muscular anomaly, are equally misleading. Perfect muscular equilibrium is as rare as Em.,[1] and to assert that the absence of it is the cause of nervous disturbances "more than any other," is quite as unreasonable as to say it is the cause of consumption or of smallpox.

Again, hyperphoria is found in every variety of misshapen eye, not exclusively in one. Finally, it is relatively as frequent in emmetropia as in ametropia.

On the other hand it is evident, whatever may be the cause of hyperphoria, that it is a factor in the causation of functional nervous affections in some individuals,[2] and that its importance in certain cases has not been overestimated. It is admitted that headache, dizziness, and vertigo in neurotic patients are induced by strain of the accommodation, and it is no argument to the contrary to say that because all patients with refractive errors are not subject to these affections that none are. But it is equally unjust to attribute the symptoms entirely to the ocular condition. There must be a constitutional dyscrasia, an exhaustion of the nervous system, a "nervous prostration," a neurotic

[1] "The Relation of Errors of Refraction and Insufficiency of the Ocular Muscles to Functional Diseases of the Nervous System," by D. B. St. John Roosa, N. Y. Med. Rec., April 19, 1890.

[2] "May Ocular Insufficiency Produce Nervous Manifestations?" By Allen M. Starr, N. Y. Med. Rec., January 4, 1890.

tendency—a subnormal nervous power and force, whatever name be given to it. This is the underlying, predisposing cause. Accommodative asthenopia *and* neurotic tendency are responsible for the nervous manifestation. This is no theory. It is daily proved in practice. Many published and unpublished cases are in evidence to prove that refractive errors have been the disturbing cause in certain abnormal manifestations of the nervous system which resisted all treatment until ametropia was suspected and relieved. And if reflex symptoms are caused by prolonged, irregular, or excessive contraction of the ciliary muscle, and of the internal and external recti, may they not also be caused by the superior and inferior recti under similar conditions—assuming, in the latter case as in the former, the existence, either inherited or acquired, of a neurotic tendency or disposition upon which the superstructure of a specific or definite nervous disease may arise?

Muscular asthenopia is as familiar as accommodative. Thirty years ago, Von Graefe formulated laws for its diagnosis and treatment which guide us to-day, and while the terms employed by him—"insufficiency of the interni," "insufficiency of the externi"—have been replaced by shorter and more accurate designations, nothing really new has been added to our knowledge. This cannot be truly said of the relation of the vertical muscles with each other and with the lateral muscles. Stevens has contributed to the science of ophthalmology the valuable results of his studies and investigations; and if their importance and application have a narrower range than he claims for them, experienced and fair-minded men will not be slow, on that account, to accord him due credit for his contributions to this branch of scientific medicine.

The first two cases recorded below are not illustrations of hyperphoria, and perhaps should be excluded from the paper, but as their histories and symptoms are identical with typical cases of hyperphoria as described by Stevens, and yet showed vertical muscular equilibrium, their recital is, I think, consistent and profitable.

Case I.—Miss N., aged twenty-five, complained of constant headache, which was aggravated by the near use of the eyes. She was obliged to give up her work, the making of artificial teeth, on account of her great distress. She had no constitutional ailment, and but for her headache, which she believed to be ocular, would have been entirely well. Under a mydriatic (dubosia) her refraction was: R. + 0.75c. ax. 90° = $\frac{xx}{20}$. L. + 0.75c. ax. 90°.

This correction was ordered for constant use. After several weeks there was no relief from headache, nor increase of ability to work. In examination for muscular anomalies, "insuf. of int. rect." = 6° far, 12° near, was found. Prism 3° base in O. U. gave temporary relief. Later, partial tenotomy of ext. recti. Immediately afterward: Esoph. far = 4°; Exoph. near = 4°. In a few days: Exoph. far = 1°, near = 10°.

No relief followed the tenotomy. The muscles varied in strength almost daily. Add. = 10–20°, abd. = 10–12°; circum. 3–8°.

After the tenotomy failed, I tested Miss N. anew with Stevens's improved phorometer, confidently expecting to find hyperphoria. In this expectation I was disappointed, for though the examinations were made for several consecutive days, *each test showed equilibrium of the vertical muscles.*

My treatment by cylinders, prisms, and tenotomy was a marked failure.

Case II.—Mr. C., aged forty-six, complained for many years of pain in the eyes, and of headache, which ensued in a very few minutes after every attempt to read or write. During these years he had consulted a number of the most distinguished ophthalmic surgeons in America and Europe, and had used lenses of various kinds, and kept his accommodation paralyzed by dubosia for three months without obtaining relief.

I ordered an accurate correction of his refraction (R.–25 ⌒ + 0.75c. ax. 45°; L.–25 ⌒ + 0.50c. ax. 135°), and combined these cylinders with a presbyopic glass.

Both pairs improved his vision, but did not lengthen the time he could read without suffering. Subsequent examinations with phorometer showed: Orthophoria far; Exoph. near = 10°; abd. = 5°, add. = 8°. Prism 3° base in O. U. were of no service.

Mr. C.'s headache and ocular pain were not benefited.

Case III.—Mrs. L., aged twenty-five, a strong, healthy, phlegmatic woman, with no nervous tendencies, complained of twitching of right lid and pain over right eye, after long-continued reading. She had no *diplopia*, headache, blurring, or photophobia, and finally, no insanity, chorea, or epilepsy. (Dubosia) R. + 0.5 ⌒ + 0.1c. ax. 90° = $\frac{20}{xx}$. L. + 0.75 ⌒ + 0.5c. ax. 90° = $\frac{20}{xx}$. *R. Hyperphoria* = 2—3°. Exoph. far = 12°, near = 27°; abd. = 12°, add. = 20°.

Unless diplopia was developed by alternately covering and uncovering one eye, Mrs. L. never noticed it; whether it was constant or not would be difficult to determine.

The above lenses removed the slight asthenopia, and completely cured all symptoms. No other treatment.

Case IV.—Miss J., of Bloomsbury, Pa., aged nineteen, delicate in appearance, nervous and quick in action; complained of severe asthenopia, neuralgic headache, blepharospasm, and inability to read more than five minutes without either causing these symptoms, or greatly exaggerating them. No diplopia. (Dubosia) R. + 0.25c. ax. 90° = $\frac{20}{xx}$. L. + 0.25 ⌒ 0.25c. ax. 90° = $\frac{20}{xx}$.

Double images were induced and maintained by the above described simple method after a few trials. *R. Hyperphoria* = 3½°; exoph., far and near, in great and varying degree. After a confirmation of this diagnosis, tenotomy of R. sup. rectus was performed. The entire tendon was divided, as *no appreciable modification of the hyperphoria followed partial division.* None of the neighboring attachments was severed. The immediate result was: *L. Hyperphoria* = 4°. Result in nine weeks—orthophoria far, exophoria near = 12°; in six months—

orthophoria far, esophoria near = 8; add. = 30, abd. = 10. Complete relief of all asthenopic symptoms, and a decided subsidence of the severe nervous conditions, followed within a few days after operation. She enjoyed absolute freedom from pain, and the power of prolonged use of her eyes in near vision was reëstablished. The hyperphoria was removed, and the exophoria, which before the tenotomy was very high, became esophoria. I advised no further treatment, believing that with the lapse of a longer period of time lateral muscular equilibrium would be established. The slight refractive error was not corrected. In this case the hyperphoria was the dominant element of disturbance, and complete success followed its removal.

Case V.—Miss H., aged eighteen, Wilmington, Del., a stout, fully developed, and fine-looking girl, but with evidences of a lack of muscular tonicity and of anæmia; ears and lips pale, localized anæsthesia of the skin. She complained of constant headache, increased by the slightest use of the eyes at the near point, occasional *double vision*, and general nervous exhaustion. The diplopia was a prominent but not constant symptom, and included both near and distant objects. It was easily induced without prisms and persisted sufficiently long to permit a thorough examination.

This case is typical. First: on account of the absence almost of converging power without divergence. This was shown by the varying position of the false image and the changing relation of the false and true images. After having induced diplopia, without prisms, in testing with candle at 20′, the image seen by the L. eye was lower (L. hyperphoria) and to L. side (homonymous); at 18′ it began to wander to the right, was lower, but did not fuse with, or at any time remain stationary under the other; inside of 18′ it was crossed and lower. The degree of deviation increased inversely as the distance. Throughout all the tests the image seen by the L. eye was always lower than that seen by the R.; *i. e.*, L. hyperphoria = 2-3° persisted as a constant condition; Esoph. far = 2°; Exoph. near = 15°.

Second: Stevens calls attention to the amblyopia which is frequently present in one or both eyes in hyperphoria. In Miss H.'s case V. on first examination was $\frac{20}{XL}$; no lesion of media or fundus. (Dubosia) R. + 0.75c. ax. 90° = $\frac{20}{XXX}$. L. + 0.75c. ax. 90° = $\frac{20}{XL}$. With this correction, and during paralysis of accommodation, vision equalled only two-thirds of the normal in the R., which was considered by me as the better or fixing eye.

After consultation with Dr. William Thomson, Miss H. was taken from school, ordered tonic remedies, nourishing diet, and exercise in the open air. After one month's treatment, the only improvement was in V., R. $\frac{20}{XXX}$, L. $\frac{20}{XXX}$, probably brought about by wearing the astigmatic correction. The faulty action of the muscles was unchanged. With Dr. Thomson's approval, and with his assistance, I divided the tendon of the L. sup. rect. in the middle, leaving the edges intact, being guided in the extent of the cutting by the phorometer. After several interruptions for testing the effect, orthophoria for distance was obtained.

The vertical displacement was entirely corrected. The *lateral disappeared*, and Exoph. near = 3°. *29th* (three days later), she "has had no double vision; *I cannot induce diplopia without a prism.*" Exoph. far = 2, near = 4; no vertical deviation. *3d:* V. = $\frac{20}{xx}$. Orthophoria far; Exoph. near = 3°; add. = 20°, abd. = 8°; circum. = 3°. *12th:* Occasional double V. L. Hyperphoria = 1°. In induced vertical diplopia L. light (eye) wanders to R. and L., as before, according to distance; abd. = 7°, add. = 32°. Ordered prism 1° base up L. *24th:* Double V. on lying down. Complained of malaise; fainted a few days ago, no headache unless she reads, and then it comes on in a very few minutes. Esoph. far = 3°; Exoph. near = 4°. L. Hyperphoria = 1°. *2d:* R. inf. rect. divided partially. Immediately afterward: R. Hyperphoria = 1°. *3d:* Orthophoria. *12th:* Double V. when recumbent. R. Hyperphoria = ½°; no lateral deviation; add. = 20°, abd. = 10°; circum. = 3°. Asthenopia has disappeared. "Read one hour by artificial light without discomfort." This satisfactory condition has remained unchanged, but it was found at the last examination, made three months after the tenotomy, that Miss H. had diplopia in *every direction*, at the extreme limits of the common field of V. This cannot be ascribed to a want of equilibrium of any one set of muscles, but rather to deficiency of power of all the muscles.

The final result is doubtful. The benefit from the operative procedures was relief from annoying double V., and ability to read a desirable length of time with comfort.

Case VI.—Mrs. H., aged forty-seven, sent to me by Dr. R. R. Bunting, Roxborough, Philadelphia. For many years she had suffered headache severe enough to require a day's rest in bed, after using the eyes for reading or sewing only a short time, and after physical exertion. It always followed a day's shopping, an evening at theatre, a long walk, or any unusual excitement. Her nervous system was exhausted. She had so-called nervous prostration, and had almost resigned herself to invalidism. I examined her in December, 1884, for refractive error.

She was wearing R. + 1.25c. ax. 180°, L. + 1s, for near use, which helped but did not relieve her asthenopia. I found, under dubosia: R. + 2c. ax. 175° = $\frac{20}{xx}$. L. + 0.25 ⌒ 0.25c. ax. 180° = $\frac{20}{xx}$, and ordered it for constant use. Eighteen months later + 0.5s. was added for presbyopia. With these two pairs of glasses Mrs. H. was enabled to use her eyes better than with the first pair, yet they were unsatisfactory. Her V. was improved, *but she could not wear the glasses* constantly. The dizziness and headache were no better. Mrs. H. continued to suffer until March, 1890, when she consulted me again, at my request, to determine the presence or absence of any muscular anomaly by means of the phorometer, which I had not used in previous examinations. I found the above refraction slightly modified: R. + 2c. ax. 175° = $\frac{20}{xx}$. L. + 5c. ax. 180° = $\frac{20}{xx}$. With, and without, this correction, in repeated tests, R. *hyperphoria* = 2° was determined. Esoph. far = 2°; Exoph. near = 1°; abd. = 6°, add. = 2°. Sup. rect. R. (and inf. rect. L.) overcomes 3°. Sup. rect. L. (and inf. rect. R.) overcomes only 1°. *April 1st:* Total division tendon sup. rect. R. Immediate

result was: L. Hyperphoria = 1½°. *5th:* L. Hyperphoria = 3°. *13th:* No hyperphoria. Exoph. far = 5°; orthophoria near. Mrs. H. reports that she is certainly relieved of headache, can sew, read, shop, or exercise with no bad result. There was, six months later, no return of asthenopia, and general health decidedly improved. *She wears distant glass constantly.*

This case illustrates a point which has not received sufficient attention. Mrs. H. found it impossible to wear her astigmatic correction before operation; afterward she found it equally impossible to go without it. The explanation is not far to seek. Before the tenotomy, with her refractive error corrected, images were distinctly formed on each retina, and it required constant contraction on the part of the R. inf. rect. to prevent distressing, because distinct, double V. Without the correction, the indistinct blurred image of the R. was suppressed, or at least was not disturbing. After tenotomy the visual axes were parallel, and the eyes required lenses that made the images of equal size and clearness, since they fell on corresponding points on the retina.

The result of the tenotomy was an unqualified success, both in respect of its effect on the power to use the eyes without pain and upon the reflex symptoms.

Method of Operating.—Stevens has suggested special instruments, differing principally in size from those in use in strabismus operations. He advises a division of the tendon, either partial or complete, according to the degree of hyperphoria, and to stop the section where the axes of V. are on one horizontal plane. My own experience, limited as it is, does not confirm this teaching. How can orthophoria obtained immediately after a tenotomy be retained? Is it practicable or in accordance with the laws of pathology to suppose that no union of the divided structures will take place, and that the orthophoria will remain as a permanent condition?

The operator must determine in each case how much effect he should obtain, and no general law can be formulated which shall cover all cases. In my own operations I have aimed to produce an opposite hyperphoria equal in degree to the original, and have succeeded fairly well, with one exception, which I afterward regretted, since a second operation became necessary.

Is there a latent hyperphoria? It seems impossible to determine its existence before operating, and our only safeguard is repeated and thorough examinations, allowing the muscles ample time to fall into that pathological position which is one of rest for them. That the total deviation is not ascertained before tenotomy, is proved by the subsequent history of a case operated on by Dr. Wm. Thomson.

Should, then, the tenotomy be partial, or complete? And, Can hyperphoria, with its array of reflex symptoms, be cured by a tenotomy

limited to the centre of the tendon? I confess the results secured by others have not been attainable in my own experience. I have divided, in a number of instances, other than those here recorded, the centre of the tendon, leaving its edges and attachments to the capsule intact, but without effect. A measurable displacement of the image followed only when I had made a complete section.

It is important to determine which eye shall be chosen for operation. It must not be forgotten that functional hyper-, as well as eso- and exophoria, is an affection of two eyes and two or more muscles, and not of one eye or one muscle only. Other than muscular conditions may decide which is the weaker or stronger eye, and which muscle may with the greater benefit be cut—such as relative position and instability of one image, error of refraction, and inclination of the head. If there be no reason to suppose one eye more at fault than its fellow, the tenotomy may be divided between the sup. rect. of one and the inf. rect. of the other eye.

CONCLUSIONS:

That hyperphoria is a real affection, and that, while it may exist without causing symptoms, it is in some cases of the highest importance.

That it may produce reflex disturbances in an over-sensitive or exhausted system.

That reflex functional disorders are found in patients with hyperphoria, which are not caused by hyperphoria.

That it is not dependent upon errors of refraction.

That it should be sought for in every case of asthenopia.

That the degree can be determined only after repeated examinations.

That tenotomy, and not prisms, is the treatment for hyperphoria.

That in most cases the tendon should be completely divided.

Of the six cases reported above, two presented symptoms of hyperphoria when no want of equilibrium of the vertical muscles could be detected; one had hyperphoria with asthenopia, which was entirely relieved by the correction of the refractive error. Three had local and reflex symptoms due to hyperphoria, and were cured by tenotomies.

It may be objected that the cases are too few to enable one to deduce therefrom laws for general acceptance. No such deductions are made. Nothing more has been attempted than a truthful recital of the histories and a careful observation of the points presented to my own mind. They furnish so much data from which the reader may form his own opinion and draw his own deductions. The subject is new, attractive, and important, and deserves more impartial investigation and study than it has hitherto received.

252 S. SIXTEENTH STREET.

REVIEWS.

A TEXT-BOOK OF THE DISEASES OF THE EAR. By DR. JOSEF GRUBER, Professor of Otology in the Imperial Royal University of Vienna, etc. Translated from the second German edition by special permission of the Author, and edited by EDWARD LAW, M.D.C.M. EDIN., M.R.C.S. ENG., and by COLEMAN JEWELL, M.B. LOND., M.R.C.S. ENG. With 150 illustrations and seventy colored figures on two lithographic plates. London: H. K. Lewis, 1890.

THE author says in his preface: "The great advance which has taken place in the theory and practice of otology during the last ten years, imposes upon the teacher of this branch of medicine a task no longer possible to accomplish within the short space of time which it is customary to devote to it in the ordinary medical curriculum. This being the case, it must rest with private study to supply the unavoidable deficiencies left in this department."

The author is wise in arranging the study of the ear and its diseases by a preliminary description of the anatomy of the entire organ of hearing, preferring to thus give an idea of the anatomy as a whole, rather than to consider the structure of a part of the ear and then its diseases, as the latter course is unnatural and likely to lead to a disjointed knowledge. Therefore, the first one hundred and seventeen pages of this work are given up to the anatomy of the ear in all its minutiæ. The rest of the five hundred and eighty pages of the book are given up to a consideration of the various diseases of the ear and an excellent index of authors and subjects; the latter comprising about sixteen pages. One hundred and twenty-three pages are given to diseases of the external ear, including those of the membrana tympani. One hundred and fifty-eight pages are devoted to diseases of the middle ear and their treatment.

The rest of the treatise furnishes an interesting consideration of the diseases of the internal ear and auditory nerve, in sixty-two pages.

On page 213 we notice an account of a case of rudimentary auricles and deficient development of the right side of the face and scalp, not found in the first edition of this work. An exploratory operation revealed the fact that the external osseous canal did not exist. The disfiguring projecting auricle was amputated and an artificial one worn in its place. Burns, scalds, frost-bites, and othæmatoma are then considered. In the treatment of the latter, "evacuation of the extravasated blood as quickly as possible, the prevention of a fresh effusion, and the union by adhesion of the separated structures by means of properly adapted pressure," is the course recommended. "The evacuation should be done with a small aspirator. If coagulation has taken place, the clot should be removed through an incision, the depressions of the

auricle filled up with cotton-wool, and pressure applied by a suitably arranged bandage, preferably by circular turns over the head." Subsequent management must be in accordance with surgical rules as occasion demands. Massage of the auricle is recommended if there is a tendency to hyperplasia and deformity: by this means the extravasated and inflammatory products are absorbed. Then follows a discussion of herpes, eczema, and various other cutaneous affections of the auricle.

Inflammation of the soft structures of the external auditory canal receives a careful explanation, and here we note new matter on the subject of aspergillus in the ear, not found in the first edition.

In the treatment of boils in the ear, in the early and painful stage, the author employs locally one-sixth grain of liquid extract of opium, and one-twelfth grain of hydrochlorate of morphine, in gelatin ovoid capsules. Before these are applied, the ear is washed out with a warm four per cent. solution of carbolic acid. Sometimes only one application a day is required; in others, three or four. The effect of this treatment is said to be partly anæsthetic and partly antiphlogistic. If pus has formed, this treatment is not as efficacious as before maturation has occurred. "Such good results are obtained from this mode of treatment that the author no longer practises scarification, as was previously done almost without exception in the stage of hyperæmia before the establishment of suppuration." This latter course has been almost entirely abandoned by American aurists, for the last ten years, in treating furuncles in the ear, while, in the hyperæmic stage, emollient instillations have taken its place.

Diffuse inflammation of the skin of the auditory canal receives ample attention. The treatment is similar to that employed in the circumscribed form.

Affections of the membrana tympani receive consideration under the headings Injuries, Myringitis, acute and chronic, and Permanent Apertures, with the application of the artificial drum membrane; and Thickening in all its varied forms.

New formations in the external auditory canal, and foreign bodies in the canal, claim the rest of the part devoted to diseases of the external ear.

Diseases of the middle ear are classified under—(1) Exudative, and (2) Plastic Inflammation of the Middle Ear. In the former the exudative element is predominant; in the latter, the inflammatory new formation. The first class is subdivided into (*a*) catarrhal, (*b*) purulent, (*c*) croupous—croupous exudation on the surface of the mucous membrane, and (*d*) diphtheritic—croupous exudation with interstitial infiltration of the structure.

Catarrh of the middle ear arises either primarily from meteorological or telluric conditions not fully explained, or, as is most common, it originates from a catarrh in a contiguous structure, especially the nasopharynx. It usually occurs on both sides, either simultaneously or at a short interval. If the latter, the left ear is usually first affected and suffers the most. When unilateral, the disease is usually on the left side. Certain diatheses, like struma, syphilis, tubercle, which predispose to affections of the mucous membranes, favor the establishment of catarrh of the middle ear. As is well known, the acute exanthemata contribute largely to this form of ear disease, while typhoid fever, pneumonia, puerperal fever, and inflammations of the buccal mucous mem-

brane, induce their share of aural catarrhs. The symptomatology of this disease of the ear is given most extensively, the author evidently placing great reliance in diagnosis upon auscultation of the ear under the effects of inflation.

Under treatment, after the relief of the more urgent symptoms, pain and deafness, the author dwells very wisely on the condition and treatment of the naso-pharynx. "The use of the vesicants and irritating ointments to the skin in the region of the ear, so much prized by the public, is without any effect in middle-ear catarrh."

Acute purulent inflammation of the middle ear occurs either in an ear previously free from inflammation, or it is developed as an exacerbation of an exciting catarrhal process. It is nearly always unilateral, and is as common on one side as the other. The causes of catarrh of the middle ear may also produce purulent otitis media. In the latter, however, microörganisms appear to play an important part, as in an otitis occurring in pneumonia. Traumatic influences, such as the entrance of fluid through the Eustachian tube in using the nasal douche, favor the development of purulent otitis media. So, also, plugging the nose for epistaxis, from the consequent irritation of the naso-pharynx may induce purulency of the middle ear, as also may the presence of a foreign body in the external ear. Amongst the general diseases productive at times of puruleut inflammation of the middle ear, may be named the exanthemata as the most prominent, then tubercle, typhoid fever, recurrent fever, syphilis, puerperal affections, Bright's disease, pneumonia, ulcerative endocarditis, etc. "*Otitis media suppurativa is notably a febrile disease*, unlike the catarrhal affection." In this form of aural inflammation the phenomena, at its outset, relate to disturbances of the nerves of sensation, so that here we find the excruciating and continuous, piercing, and tearing pain in the ear, known as "ear-ache." In children this not uncommonly induces vomiting, or stupor, coma, and muscular spasms, and even epileptiform seizures. The author then considers the treatment of the disease, and also the course it may take if unchecked. The mastoid cells and their outer covering may be attacked, or the disease may invade the cerebral cavity through various natural channels, or anomalous openings in the petrous bone.

In regard to the prognosis of this disease, so far as concerns its inward extension, it is more favorable in childhood and old age than in the intermediate portion of life. This, the author says, is due to the fact that in childhood the sigmoid sinus, through which the morbid process usually passes to the brain, is separated from its mastoid cells by a much thicker barrier of bone than in adult life, and in old age these cells become obliterated by osseous solidification to some extent, and the extension of aural disease to the mastoid and cerebral cavities is rendered less likely. The treatment set forth is most judicious and extensive, planned so as to meet all indications. Of course, the most complete drainage must be maintained. In cleansing a purulent ear, syringing must not be supplanted by mopping with cotton. The author advocates in some cases aspiration of the drum-cavity by means of Siegele's pneumatic speculum, when syringing is not sufficient to cleanse the depths of the cavity. Amongst local applications in otorrhœa finely powdered boric acid is placed in the front rank.

Plastic inflammation of the middle ear, hypertrophhic or sclerotic catarrh, is considered rather too briefly for so important an ear disease.

The prognosis is held to be, "upon the whole, unfavorable, especially when the mucous membrane, or the inner wall of the tympanum over the fenestra ovalis and fenestra rotunda, is involved in the process."

The treatment has for its objects the "checking of the morbid process and the relief of the injurious results of the hyperplasia, so far as these may be possible."

It is in this form of chronic catarrh of the middle ear that the aurist encounters the bitter complaints of his patients, of tinnitus aurium, vertigo, and deafness, from the retraction of the membrana tympani and ossicles of hearing, induced by the sclerosis of the mucous covering of the ossicles, and their consequent ankylosis. The author offers, practically, very little for their relief, and we are amazed to find no allusion to the good results obtained by others in just such cases, by excision of the stiffened membrana tympani and ossicles. In some instances entire relief from tinnitus and vertigo has been afforded by this operation when *all* other means have failed. But, the author appears ignorant of what has been thus accomplished by others.

The author advocates, however, tenotomy of the tensor tympani, if it appears that retraction of that muscle is the cause of tinnitus and vertigo. He regards tenotomy of the stapedius muscle as a doubtful remedy for relief of diminished mobility of the stapes. The treatment of polypus from the ear is based upon the two cardinal principles common to all surgical practice, viz.: the removal of the new-growth, and the prevention of a recurrence.

Inflammation of the periosteum of the mastoid region receives a short chapter, in which it is considered under two forms, the primary and secondary. The first is of very rare occurrence; the second is very frequent in connection with inflammatory processes of the aural structures. Caries and necrosis of the temporal bone and of the auditory ossicles receive attention in a chapter of twenty pages, but the treatment seems to us very meagre and inadequate, though the description of the diseases and symptoms is most complete, and to an aurist very interesting. We have again to comment on the silence of the author upon excision of the diseased membrana and necrosed ossicles in chronic purulency, and the great advantages gained thereby.

The truth is, the operation of excision is so painful that it demands etherization of the patient. But, unless his ear is then illuminated by an electric head-lamp, devised for the purpose, the operation cannot be safely carried out; and, so far as we are aware, the only thoroughly useful electric lamp for this purpose is of American make, and, apparently, has not yet been imported into Germany.

Time and space cannot be given here to as long a consideration of diseases of the internal ear and auditory nerve as they deserve. Though Ménière's disease is still so called, a name which we hope to see supplanted some day by the just title of aural vertigo, we are glad to note that the author mentions the fact that even Ménière did not claim that this disease is necessarily always due to primary changes in the semicircular canals, "but that pathological processes in the middle ear, so far as they are capable of injurious influence upon the labyrinth, may likewise evoke phenomena of this order."

The entire treatise of Gruber impresses one as the work of a man imbued with a profound scientific spirit, even if some of the treatment is

rather too conservative and antiquated. His translators have done their work into acceptable English, and the publisher has given the reader a book attractive in every way. C. H. B.

TRAITÉ DE GYNÉCOLOGIE CLINIQUE ET OPERATOIRE. Par S. POZZI, Professeur agrégé à Faculté de Médecine, Chirurgien de l'Hôpital Loureine-Pascal. Pp. xxiv., 1154. Paris, 1890.

A TREATISE UPON CLINICAL AND OPERATIVE GYNECOLOGY. By S. POZZI, M.D., etc. Paris, 1890.

WE are not aware of any more scholarly, comprehensive, or intelligible treatise upon gynæcology in the history of its literature. Gynecology is a subject which has developed so rapidly, and in so many directions, that to attempt to write a record of this progress, and at the same time accumulate a large individual experience, is a task which few men in the future will attempt. Monographs, and series of lectures, and encyclopædias, will probably form the future literature of this subject. The tendency of gynecology at the present time is mainly surgical. This tendency is well marked in the work under consideration. If it had introduced propositions which seem audacious to those who believe that very many of the ills peculiar to women can be cured by drugs, its defence is logical that there will be a great saving of time in some cases, that life itself will be saved in others, and that if surgery fails other means may still be resorted to. Of course, it is admitted that the so-called risks of surgical measures are often greater than those of medical ones, but it is assumed that the gains will also be greater.

The author states that his experience and observation have not been limited to his own country. This is obvious from the enormous mass of literature, foreign as well as home, to which he refers, and with a fairness and frankness which are quite too infrequent among French and German authors. It is a great satisfaction to find a Continental author who is free from that narrowness and provincialism which sees no virtue beyond the border-lines of its own territory. There is but one subject in the wide range of gynecology, so far as we can recall, which the author has not touched and illuminated, with that clearness of expression for which the French language and manner of thought are so well adapted. That subject is the diseases of the mammary glands, which are as essential a portion of the reproductive apparatus in woman as the organs of the pelvis. They certainly are as deserving of attention by systematic writers as the diseases and injuries of the bladder, and no one should think of writing a treatise on gynecology and omitting them. The work abounds in plates and figures, many of which are peculiar to it, and are well executed, and clear in their teaching. The value of good plates cannot be overestimated in such a work. The pathology is written, of course, from a French and not a German standpoint, and the two do not always harmonize. The views of German pathologists are referred to, however, without apparent prejudice.

One fact, which must have been remarked by any thoughtful gynecologist, is the diminished importance which uterine displacements *per se* have occupied in pelvic pathology within the past five years; or, per-

haps, it would be better to say that the method of treating them has changed, and is still in process of evolution. This fact is manifested in the diminished space, relative to similar works of equal magnitude, which the author gives to the classification and treatment of these disorders, especially their treatment by pessaries. The pessary seldom cures, and is often a great nuisance. At present there seems to be no alternative to such treatment but cutting operations. Of these there is a sufficient variety, but their very abundance is sometimes an embarrassment, and not one of them can be relied upon to give uniformly good results. Some of them need only be mentioned to call forth insuperable objections. It would seem unnecessary to comment in detail upon the numerous excellences of the work. There is a notable and refreshing absence of excessive refinement in classification, which, with most minds, tends to confusion. The subject of pelvic inflammation, that old bugbear, is intelligently discussed in the light of modern, that is, recent surgical experience, and while this method does not give us all needed information, it is better than the method of the deadhouse alone, or the method of palpation. In connection with this subject we observe one statement with which we cannot agree, namely, that ovaritis cannot exist without an antecedent endometritis and salpingitis; that is, that we have no simple lesion *ovaritis*, but always a mixed one, *tubo-ovaritis*. Now, we believe it is not very unusual for ovaritis to exist alone, especially in connection with disturbances of the utero-ovarian bloodvessels. This may or may not be connected with menstruation and menstrual disorders, and this statement is made, not as a matter of theory, but of experience. A criticism of the arrangement of subjects in this work would be but an expression of opinion. We confess a preference for such an arrangement as is found in Thomas, and some other works of equally high degree of excellence, fundamental considerations of anatomy and pathology taking the lead, and consideration of parts and organs, from without inward, following. Such an arrangement seems to us the natural one, and obviates repetition, at least to a considerable degree. But failure to follow such a plan is a minor defect, if, indeed, it is a defect. On the whole, the work is, as we stated at the beginning, a very meritorious one, and highly creditable to its distinguished author.

A. F. C.

A Practical Treatise on Impotence, Sterility, and Allied Disorders of the Male Sexual Organs. By Samuel W. Gross, A.M., M.D., LL.D., Professor of the Principles of Surgery and Clinical Surgery in the Jefferson Medical College of Philadelphia, etc. Fourth edition. Revised by F. R. Sturgis, M.D. Pp. 169. Philadelphia: Lea Brothers & Co., 1890.

A treatise which, after achieving three issues from the press, and a translation into the Russian tongue, appears in a fourth edition after revision, is certainly entitled to respect, and, in a qualified sense, to some concession of authority. The several pages of this small work are fairly well known to the profession at large, and scarcely call for further extended notice. The several chapters on atonic, psychical, and symptomatic impotence, have been made familiar, not merely to the practitioner and student, but to not a few of the anxious among the profane.

Sterility, spermatorrhœa, and prostatorrhœa, as here expounded, are the data of andrology for some who are not merely of the initiated, but of the curious. Much that is here set down is clearly expressed, based upon creditable observation and authority, and illustrated by trustworthy clinical fact. Some of the injunctions are wise, and of practical worth. The book itself represents no light labor of collation and an abundant experience.

None the less, one can scarcely read a half-dozen of its pages without being convinced that the mental vision of the lamented author was unfortunately distorted by certain obstinate opacities that lay in its field. He honestly believed and taught that the practice of masturbation, not in a few isolated and singular instances, but in many, if not the majority, of its youthful victims, was effective in the production of stricture of the urethra. Acting upon this conviction, he explored, distended, divided, and otherwise treated the urethræ of a large number of young men who had never contracted a blennorrhagia, but whose troubles he thought sprang from local mischief in these parts. Impressed with this conviction, not shared by the greater number of authors upon this subject, he wrote the treatise before us.

In describing atonic impotence (Cases I.—V., p. 24), he recognizes a "stricture" in each of five young men, "in whom the idea of gonorrhœa must be discarded." In treating of organic aspermatism, he cites the case of a man with no history of gonorrhœa, in whose urethra he found a "stricture" (Case XXVI., p. 119). In describing atonic aspermatism, he relates the case of a man suffering from "stricture," who gives no history of gonorrhœa (Case XXIX., p. 123). In connection with the subject of nocturnal pollutions he relates the case of an adult male, virgin of all sexual indulgence, affected with a "stricture" (Case XXXI., p. 134). In discussing diurnal pollutions he relates the case of a patient, no gonorrhœal antecedents recorded, affected with a "stricture" (Case XXIV., p. 137). In the pages devoted to prostatorrhœa, "in its pure form," as displayed in twenty-one subjects, he states that, of these, nineteen had "stricture of the urethra" (p. 162).

It is as impossible for one to read these pages and accept their deductions, without questioning their premises, as it was for the author himself to put his thoughts on paper before they had been filtered through and colored by his unfortunate convictions.

The reviser of the present edition is quite competent to view these subjects with an unprejudiced eye and to write upon them with clearness, vigor, and authority. But, in the present case, he has contented himself with the expression of his personal dissent or correction in the compass of paragraphs which appear scattered here and there along the pages, as they seemed to him to be required. The first emphasizes the propriety of a divorce between impotence and sterility, and is soon followed by another (p. 22), denying that confirmed masturbation and gleet are equally sure to result in stricture, with a suggestive hint that the arrest of a bulbous bougie, "even of small size," when traversing the urethra, is not evidence of a "true stricture." In this way, as page succeeds page, he amends or adds to the conclusions of the text. The result as a whole is unsatisfactory and feeble. The revision would have been far more acceptable to both the reviser and his readers if Dr. Sturgis had rewritten the entire book.

It is scarcely within the province of the reviewer to suggest to

authors and editors how to deliver themselves acceptably on any theme, and yet Macaulay, one of the ablest of reviewers, did not hesitate in such a course. If one were ever tempted to follow such bold steps it might be in connection with a subject that is an ancient accretion of prejudice, lust, greed, fear, and ignorance. And yet it is a subject which should be approached by an author, as the sunshine falls upon a heap of ordure, in a spirit of sympathy, fearlessness, candor, sincerity, and truth. Surely he should devote some space to the physiology of the male sexual organs, not merely in their narrow functions, but in their broader relationship to the general economy, to the product of conception, and, both as to their activities and anatomical details, to the not dissimilar organs of the other sex. He should set in evidence the incontrovertible fact that the generative apparatus of the male, after half a century of complete disuse, may be capable of procreation, as also the equally established fact that it may accomplish the same end after a similar lapse of time in the face of the most persistent and frightful abuse. The wonderfully planned conservation of its power, under the jealous protectorate of the recuperative energy of the body, in both health and disease, in precocious development and tardy decline, should be well understood by him who resorts to a therapeutic measure or a surgical mutilation. With this it should be demonstrated clearly that the procreative is far from holding the preëminent place among the powers of the body, being often preserved in the fullest measure by the tuberculous, the syphilitic, and the idiotic; that it is often most successfully active in those periods of human life when the best powers of a man are actually immature; and that it may be wholly wanting, or but very feebly developed, in individuals who physically represent the grandest and noblest types of the sex. He should be able to prove rigorously that the words "potent" and "impotent," in the sense of their common usage, have no meaning whatever for the expert, and express chiefly the erroneous concepts of those who employ them, the majority of healthy men being both potent and impotent in this false sense; and, given a fixed moment and certain conditions, the average man will be "potent" or impotent, according as a thousand factors may operate in the one direction or the other. He should show that the human like the other animal brutes (as, for example, in the type of the North American savage), may, indeed, at all times be competent to effect a rape at will, but that the "civilized" man, even when governed by immoderate lust, and possessed of unusual vigor, is often "impotent" in conditions of health. He should be able to demonstrate that there is a prostatic no less than a uterine "flood and ebb," in each month, of sexual congestion and its reverse, and point out the fact that as women are distinguished from the females of all other animals (in generations of transmitted inheritance), by a menstruation which may be described as the price of virginity and chastity, so the "spermatorrhœa" of the male may be a condition of his clean living; and that even when his losses at night occur "without erections and dreams," he is in no danger of touching that "pathological" state described by our author (without correction) in the revised edition before us (p. 135).

With these and other allied facts fully explained, the reader of a text-book would be in position to begin, without prejudice, the study of the perversions and partial or total suspension of the sexual power in men who have never had a stricture of the urethra. Yet, even here, he

should be led, further, to the far more interesting field where accurately localized organic changes in the sexual tract are responsible for such results, the changes themselves being, however, as a rule, of far more consequence in many ways than in relation merely to the minor consequence of "impotence" or "sterility." Tuberculosis of these organs, for example, is a subject of vast importance, our knowledge of it increasing with every month, under the impulse of the painstaking efforts of indefatigable research. It probably, even when most insidious of evolution, first attacks the prostate gland, and many of the poorly described diseases of the prostate in persons virgin of venereal antecedents are instances of its interference with the functions of that organ. Yet, in the present treatise, no attention is given to its influence in discussing the etiology of spermatorrhœa (the word "tuberculosis" does not appear in the index), though there are few experts who have not examined cases of genuine spermatorrhœa, where semen was regularly at certain hours of the day discharged with the urine, and where the whole mischief originated in a tuberculosis of the gland in question. In this same field of organic changes, again, one seeks to know more of the abnormal condition, known as "bloody semen," than can be compressed into the scanty paragraphs here devoted to the subject. One would like to know how to differentiate the bloody semen of prostatic origin from the more obstinate form due to blennorrhagic involvement of the seminal vesicles, and even to understand how to discover which vesicle is at fault, as well as to be fully instructed that even in the most obstinate cases this condition can be made to yield to that wherein a child may be procreated by the subject of the disease.

We look, indeed, to have a fuller and more useful edition of this treatise from the hand of the present reviser at no distant day—one that can be commended as worthy of the study of the practitioner who, if truth must be told, is too often so poorly informed of the diseases of his own sex that he can for the most part describe with greater accuracy those of women.

The publishers have done their part with unusual care, the proof-reading being remarkably accurate, and the typography all that can be desired. J. N. H.

DU VERTIGE CARDIO-VASCULAIRE, OU VERTIGE DES ARTERIO-SCLEREUX, PAR LE PROFESSEUR J. GRASSET: Leçons Recueilles et Publiées par le DR. G. RAUZIER, Chef de Clinique Médicale. Montpellier: Camille Coulet, Libraire-éditeur. Paris: George Masson, Libraire-éditeur, 1890.

ON CARDIO-VASCULAR VERTIGO, OR VERTIGO OF ARTERIO-SCLEROSIS. By PROFESSOR J. GRASSET. Reported by DR. G. RAUZIER, Chief of the Medical Clinic. 8vo., pp. 80. Montpellier and Paris, 1890.

THIS is quite a careful study of an important subject, and is enriched with some valuable sphygmographic tracings. The author believes that all species of vertigo should be grouped under two grand divisions: First, acute, or accidental vertigo, which may depend upon a great variety of causes; second, chronic, or habitual vertigo, which is of

much more importance. Three divisions of chronic vertigo are commonly recognized: first, epileptic vertigo; second, sensorial vertigo, and especially auricular vertigo (Ménière's disease); and third, gastric vertigo. To these the author, following Huchard, would add cardio-vascular vertigo, or the vertigo of arterial sclerosis, which he believes has not received proper recognition from clinicians in general.

Arterial sclerosis, he says, is a general and chronic disease of the entire arterial system, which, while it affects the whole of that system, may present more marked localization in different organs. Arterio-sclerosis is not to be identified with atheroma, the latter being but one of its manifestations, just as others are to be found in Bright's disease and cerebral softening.

Among the causes of arterial sclerosis, he enumerates chronic rheumatism, gout, diabetes, asthma, migraine, lithiasis, obesity, and other disturbances of innervation and nutrition, alcoholism, lead-poisoning, tobacco-poisoning, impaludism, syphilis, and infectious maladies in general. As a rule, he thinks that no one of these causes alone produces it, but that it is the resultant of several coöperating chronic intoxications. He endorses the theory of Huchard, that the arteritis, which is the anatomical basis of arterial sclerosis, results from inflammation consequent upon repeated spasms of the arterioles due to the irritation of toxic agents circulating in the blood. The particular effect of these spasms is a condition of hyper-tension of the arteries, which thus becomes of importance as an early diagnostic indication. The most important physical sign of this condition is the accentuation of the diastolic or closure sound in the aortic region. Among the important symptoms to which it gives rise is vertigo, the character of which varies with the localization of the lesion in the nervous system. We have simple vertigo, vertigo with epileptiform crises, or vertigo with permanently slow pulse, associated with epileptiform attacks or with frequent syncope. In particular the latter form, ascribed by Charcot and his pupils to bulbar lesion, the author, following Huchard, insists upon as a symptom of arterio-sclerosis, with, perhaps, special localization of lesions, both in the heart and in the medulla.

In treatment, two agents are especially applicable—sodium iodide and trinitrin (nitroglyceriu); the indications for which are self-evident. When epileptiform crises accompany the vertigo, sodium bromide may be added to the treatment; and when nutrition is specially at fault, sodium arseniate is advised.

With the etiologic, pathologic, diagnostic, and therapeutic observations and arguments here advanced, the profession in America has for some time been familiar through the teachings of Bartholow.

S. S. C.

PROGRESS

OF

MEDICAL SCIENCE.

THERAPEUTICS.

UNDER THE CHARGE OF

FRANCIS H. WILLIAMS, M.D.,
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Hints on Dietetics.

Sir William Roberts, who has devoted much attention to the subject of dietetics, has recently read before the Manchester Medical Society a communication on this subject.

He considers that the dietetic customs of civilized races suggest two distinct indications—one to subserve the needs of general nutrition, the other to subserve the needs of the higher functions of the brain and nervous system. It may be said that bread and other cereal articles, leguminous seeds, the various products of the dairy, fruits and vegetables, the harvest of the sea, and meat are designed to minister to the former purpose; and that tea, coffee, and the various forms of alcoholic beverages are designed to minister to the latter purpose. With this second group should also be classed tobacco; for, although tobacco cannot be regarded as a food, its use must be ranked with our dietetic customs. Strictly speaking meat, or at least some kinds of meat, should probably find a place in both categories, for it possesses certain stimulating properties which distinguish it from vegetable and dairy products. Tea and coffee and alcoholic beverages are sometimes branded as luxuries. What is a luxury? You cannot rightly class as luxuries—meaning thereby something that has no solid utility to the species—articles that are in general use among a successful and ascendant community. The very fact that they have attained this position is, to a naturalist, evidence sufficient that in some way or other the community as a whole, and in the long run, benefits by their use. The struggle for existence—or, rather, for a higher and better existence—among civilized men is almost exclusively a brain struggle; and these brain foods, as they have not inappropriately been termed, must be regarded as a very important part of the equipment for that struggle. One of the most characteristic features of our dietary is its variety or diversity. Not only are our several daily meals

framed on a different plan, but the meals of one day differ more or less from the corresponding meals of another day. We may be quite sure that this diversity serves some useful end. In drawing up schemes of diet we are not, therefore, justified in neglecting this feature and in reducing the diet-list to a dead level of monotonous uniformity. A want of attention to this point leads us unwittingly to needlessly torment and worry our patients by placing unnecessary restrictions on their choice of food. Some of those commonly imposed are difficult to understand. Most of them probably derive their origin from some crude notions floating through the lay press and unconsciously lodged in the medical mind. Why, for example, should tea and coffee be so frequently forbidden without any evidence that they disagree with the patient? or why should the bland, innocuous, and easily-digested potato be so ruthlessly proscribed? Sometimes prohibition takes a wider sweep, and fruit and vegetables are included in one general condemnation, nor are the rules laid down always self-consistent.

A good rule is to say to the patient, "Do you like it?" "Does it agree with you?" If the answer is in the affirmative there is no intelligible reason why the use of that article should not be sanctioned. Such a rule is so plain and simple, and so obviously consonant with good sense that it might scarcely appear worth while, or even dignified, to make formal mention of it, were it not so well established in the experience of all that it is constantly violated. The patient's instinct represents an immense accumulation of experience, partly acquired and partly inherited. It is, of course, not infallible—no instinct is; but so close and true are the sympathies of the palate with the stomach and the rest of the organism that its dictates are entitled to the utmost deference as those of the rightful authority in the choice of food.

A change of diet may often be of advantage to the patient. A course of two or three weeks of vegetarian regimen occasionally proves most grateful, especially in the case of heavy feeders. Similarly, the total abstinence from alcoholic beverages is often highly salutary, and most of all for those whose daily potations are on a liberal scale. Slight variations in the diet are often of advantage; thus, changes from tea to coffee or cocoa, from one kind of alcoholic beverage to another, from one sort of bread to another.

A change in the times of the meals is sometimes of benefit. In some cases troublesome insomnia may be relieved by changing from mid-day dinner to late dinner or substantial supper. Such effects are merely temporary, and their benefits are exhausted within a month or so, and then a return to the old diet or a new change may be desirable. A point of practical importance is that when certain articles disagree, it is better to lessen the quantity than to forbid; if fruit or vegetables prove difficult of digestion, it is unwise to prohibit them altogether. The antiscorbutic properties of fruit and vegetables cannot be safely foregone, and a very small proportion suffices to fulfil this indication. As regards potatoes, people do, no doubt, stuff their stomachs with potatoes, which the organ finds it difficult to deal with. But many persons cannot enjoy, or scarcely eat, their dinners without potatoes, and to abstain from them is a great privation. Nor is this necessary: a reduced allowance will solve the difficulty perfectly. Then, some persons are abnormally sensitive to tea or coffee or alcoholic beverages, and suffer discomfort from the quantities usually taken. But abnormal sensitiveness is not a proof

that the incriminated article is unserviceable, and a diminution of the quantity may prove a better remedy than total prohibition.

Finally, Dr. Roberts adverts to the necessity for revision of the diet to meet those changes in the type of nutrition which naturally takes place as the individual travels on from youth to age. In the normal course the palate and the appetite adjust themselves automatically to these altered conditions, and there is a lessened intake of food, but sometimes these adjustments lag behind, and the power of taking food remains unaltered, while the assimilative powers are on the wane. Then some form of nutritive disorder necessarily follows. In most of these cases, but not in all, there is a tendency to stoutness. There are indications of digestive difficulties and of engorgement of the abdominal organs, and signs of that vague condition termed latent or undeveloped gout. The early recognition of this condition is very important, for thereupon depends the prevention or postponement of degenerative processes which hereafter prove formidable. In this conjuncture the observant medical adviser may render invaluable services in detecting the maladjustment and in taking timely steps for its correction. The most obvious indication is to lessen the quantity of food, and where difficulty is found in controlling the actual amount of food taken, where the appetite is yet strong and the powers of gastric digestion are abnormally active, the less concentrated forms of food are here a useful resource—green vegetables, salads, and thin soups—which help to fill the aching void without adding materially to the albuminoid and fatty ingredients of the meal. Tea and coffee are also serviceable in allaying an unseasonable craving for food. A stiff cup of tea or coffee shortly before dinner certainly takes the edge off a troublesome appetite. It is, however, well to proceed cautiously in this direction, for the promptings of nature are not to be lightly set aside. The effects of a contracted diet should be carefully and patiently watched with an open mind for every sign or suggestion, whether of warning to retreat, or of encouragement to advance. In middle life particular attention should be paid to the quantity of alcoholic beverages; as a very general rule, the tolerance for these articles diminishes with advancing years, and it is necessary nearly always with persons who have used them freely to reduce their quantity when middle age is reached. In regulating the diet of substantially healthy persons, it is imperative to beware of hard-and-fast lines. Cases of this group are very diverse; scarcely any two are exactly alike, and their management is complicated often by social considerations which are difficult to justly estimate. We can only hope to avoid serious errors by a patient investigation of each particular case, and by bringing to bear upon it a full knowledge, combined with a large infusion of common sense.

These suggestions apply to cases where the patient is only troubled with some slighter ailment or indisposition which does not incapacitate him from taking his part in the world's work, nor necessitate any great deviation from his usual habits. In regard to the dietetic management of a case of fever, or of diabetes, or of gastric ulcer, or, indeed, of any of the more serious forms of sickness, medical men are of, in general, one opinion; but in persons in the main healthy, the advice tendered by different practitioners is apt to show a lamentable want of consonance, or even total contradiction.—*Therapeutic Gazette*, No. 1, 1891.

Treatment of Internal Hæmorrhage.

Dr John Ferguson has given a very good outline of some of the ways in which a practitioner may render aid to his patients in this emergency.

Among the remote ways of treating internal hæmorrhage are lowering the blood-pressure and changing the character of the blood itself. It is very apparent that the amount of blood that will flow through a rent in the wall of any vessel must be greatly influenced by the total amount of blood in the system and the amount of pressure upon the vessel from within. This being the case, the first step to take in dealing with a hæmorrhage is to cut off the supply of liquids. In this way the amount of blood is kept down, while it becomes thicker and better fitted for forming a good firm clot in the torn or ruptured vessel. Another step in the same direction is to reduce the volume of blood by actively eliminating water from the system. The hypodermic injection of pilocarpine rapidly unloads the body of water and inspissates the blood left behind, lessening thereby the freeness of the flow. This would not, however, be suitable in cases of pulmonary bleeding. Other diaphoretics might be selected, according to the judgment of the physician.

Those purgatives that produce copious watery stools, and at the same time are not irritating or depressing, must be placed high on the list of agents we may use for the relief of the sufferer entrusted to our charge. Of these purgatives there is none so good as Epsom salts. When given in saturated solution, without water, in free doses and often repeated, very free watery evacuations are produced, the amount of fluid in the vascular system is speedily lessened, and the hæmorrhage to this extent controlled. By maintaining this action for some time, the ruptured vessel has time to heal, because the pressure is largely taken off and it is put into the condition of rest. In addition to this the blood is thickened. In some cases of cholera—sporadic or epidemic—when the rice-water stools have been very abundant, the blood becomes so reduced in volume and so inspissated as not to flow from a wound made in a large vein. In the event of hæmorrhage due to ulceration in typhoid fever, this plan could not be had recourse to, though it might be used with advantage in the bleeding from a gastric ulcer. In the hæmorrhage, often so free, from soft and rapidly-growing uterine fibroids, it is specially useful if continued long enough—say for months.

In severe post-partum hæmorrhage the medical attendant may try ergotin hypodermically, or hot vaginal or rectal injections, but these may fail. It is a belief, not yet quite dead, that the uterine sinuses are closed by clots. This is quite erroneous. The uterine vessels and sinuses are interlaced by muscular fibres, and it is the contraction of these that arrests the hæmorrhage. This muscular tissue, as it were, ligates the vessels that would bleed, and, so long as the contraction is good, there is no danger. For the maintenance of this tonic action of the muscular tissue in the uterus the application of heat to the lumbar portion of the spine has been found very useful. It stimulates this portion of the nervous system by bringing more blood to it. There is a greater influx of nerve-energy to the uterus and contraction is brought about. It is true that the uterus seems to be very independent of the spinal cord, and labor may take place in a paraplegia. This does not, however, invalidate the fact that heat—applied to the spine by a sponge dipped into hot

water—does much good in the way of rousing the uterus into action. But when all things fail, as a last resort we may tampon the uterus and vagina thoroughly with iodoform gauze, or, if this is not at hand, some cloths to which glycerin is added. The bleeding is soon arrested, the uterus begins to contract, tone in its walls is secured, and one can feel at ease that the patient is out of all immediate danger.

In capital operations, such as the removal of large and vascular tumors from the neck, the female breast, etc., the plan is simply to tie bands around the legs and arms close up to the body. This arrests the return of blood to the body, while the flow of blood into the limbs still goes on. By this means a very large amount of blood in the body is rapidly collected into the four extremities and the pressure is taken off the central vessels. This method gives time for the use of other means.—*New York Medical Record*, December 1, 1890.

A Case of Severe Acute Anæmia Cured by Salt-water Injections into the Rectum.

In a case of enormous hæmorrhage during a severe long-continued labor, in which the placenta was too early detached, Drs. Herr and Haussmann used the treatment advised a short time ago by Gill for preventing death by hæmorrhage.

Mrs. S., aged thirty-seven years, rhachitic in her youth, had at the time a contracted pelvis (true conjugate 8 to 9 cm.). Since 1882 she had five dead children, with very difficult labors.

At the beginning of the labor under discussion, severe hæmorrhage occurred, for which Dr. Heer was quickly summoned. Under the most difficult complications and continuous hæmorrhage, version and extraction were accomplished. This time also a dead child was delivered (impaction of head at promontory).

After the birth the mother's pulse was barely perceptible. In spite of repeated subcutaneous injections of camphor, ether, and internal stimulants, together with powerful massage of the uterus, over which considerable time was consumed, the patient sank into a complete anæmic, bloodless condition. The pulse was imperceptible, the superficial veins of the arm were empty and could not be distinguished. On this account and because there was no time to lose, neither transfusion or subcutaneous injection was practicable, but especially on account of the rapidity and ease of its administration the rectal injection of a solution of one-half per cent. lukewarm salt water was employed. About two quarts of the fluid were introduced, which was quickly absorbed. During the injection the patient's pelvis was raised.

Later a syncope occurred again with vomiting, pulse absolutely imperceptible, temperature subnormal. Therefore another salt-water injection was made into the rectum, which was retained. Soon after the radial pulse could be felt feebly. The following morning the general condition was improved, pulse somewhat stronger, 129 to 140 a minute, temperature 99.5° F. After the control of the anæmia the convalescence progressed rapidly.

So simple a life-saving method is at least worthy of a trial by clinical instructors and practitioners.—*Centralblatt f. Gesammte Therapie*, Heft v., 1890.

Quinine in Typhoid Fever.

Many physicians still prescribe quinine in typhoid fever by giving 15 to 30 grains in four doses, to be taken during the day. In this manner no therapeutical result is obtained, because it is seldom that a reduction of temperature follows.

Although, according to Dr. Manassein's observations, quinine is retained longer in the system of a fever patient than in health, it is a well-known fact that quinine begins to be eliminated by the kidneys after ten minutes, that after twelve hours the whole dose is secreted and eliminated, and that elimination is greatest after six hours from the time the drug is taken. Therefore, small doses cannot have any effect.

In typhoid fever it is advisable to give large doses at short intervals, viz., 20 to 30 grains in one hour. To overcome the pyrexia it is necessary to administer the drug six or eight hours before the rise of temperature, viz., 8 to 15 grains at ten o'clock and 15 grains at eleven o'clock in the morning.

Dr. Huchard found the combination of quinine and antipyrine very useful in the following proportion: hydrobromate of quinine and antipyrine of each 75 grains; to be divided into ten doses, two doses to be taken during the day.—*Centralblatt f. Gesammte Therapie*, Heft v., 1890.

Boric Acid in Constipation.

Herr Flatau has suggested to the Medical Society of Berlin the use of boric acid in chronic constipation. In cases where the lower part of the rectum protrudes through the anus, and remains visible after powerful contractions of the levator ani and sphincters, the quantity of forty-five grains of boric acid is either dusted or rubbed on the mucous membrane in sight. In cases in which the mucous membrane is not visible it must be insufflated. It is important that the medical attendant should carry out the procedure himself, at any rate at the commencement. The patient should then keep quiet for a time. In from an hour to three hours peristaltic action will be observed in the colon. He has never seen a failure from this method of treatment, nor has he seen a case where the patient got so accustomed to it that it ceased to be effective. On the contrary, if carried out systematically daily, permanent improvement in time takes place, and normal peristalsis is secured.—*Medical Press and Circular*, 1890.

Chloral-antipyrine.

Hydrate of chloral combines with antipyrine to form two definite compounds, one containing a molecule of chloral hydrate and one of antipyrine—monochloral hydrate; the other containing two molecules of chloral and one of antipyrine—bichloral antipyrine. Professor Lee has found that in their physiological action they are both like chloral, but differ from it in having a less depressing action upon the circulation.

In doses of thirty to forty-five grains they are comparable to chloral as hypnotics. Compared with sulphonal and chloralamide and chloralimide, the compounds of chloral and antipyrine are less certain in their hypnotic action.—*La Médecine Moderne*, No. 52, 1890.

Chrysarobin in Psoriasis.

Dr. Unna recommends

Chrysarobin	5 parts.
Salicylic acid	2 "
Ichthyol	5 "
Vaseline	88 "

Made into an ointment and to be rubbed into the affected parts.—*Nouveaux Remèdes*, No. 23, 1890.

Camphoric Acid in Cystitis and for the Night-sweats of Phthisis.

Of a twenty per cent. solution of camphoric acid in alcohol	10 parts.
Water	400 "

To be used to wash out the bladder, twice a day.

It will stop the decomposition of the urine, but has no influence on the secretion of pus.

For the night-sweats of phthisis three doses of fifteen grains each may be taken during the day, or forty-five grains on retiring.—*Nouveaux Remèdes*, No. 23, 1890.

Treatment of Scabies with Creolin.

Dr. De Lallis reports the use of creolin in scabies in the form of a five-per-cent. ointment, rubbing it once daily into the affected parts. Only four such applications are said to be necessary to produce perfect cure. Creolin, in his opinion, is preferable to any other remedy for this purpose, especially possessing the advantage over sulphur of not producing any eczema of the skin, and not staining either the skin or the linen.—*Therapeutic Gazette*, No. 1, 1891.

Hydrate of Amyl in Epilepsy.

As suggested by Wildermuth, Dr. Umphenbach tried amylhydrate with seven patients who had suffered from epilepsy for many years. The ages of the patients were from twenty to fifty-five years, and the dose given was one drachm and a quarter to two drachms pro die.

Dr. Umphenbach has not observed particularly favorable results from its use.

Two patients who on an average had had nine and eleven attacks a month, had no attack while taking amylhydrate.

The third patient was helped by the remedy at the beginning. He passed the first month without any attack, while formerly he had had thirteen, but on further trial the remedy failed. The patient had as many or more attacks than before.

With the other four amylhydrate did not markedly affect the number of attacks. The remedy was well taken by the patients, but produced in nearly all of them a great tendency to sleep. Their appetite was unimpaired.

On the other hand the remedy had almost always the disadvantage that after its discontinuance sleep was disturbed for a long time, and patients who had formerly been quiet at night became restless. It happened in three cases that a number of days after suspending the use of the remedy the patients were confused even without having an epileptic attack.

Patients thus affected had suffered before, but it was evident that the confusion caused by suspending the use of amylhydrate lasted much longer. The confusion was also observed when the dose was gradually diminished.

It seems very remarkable that in several patients, who had had before only one or two attacks a day, had after suspending the remedy a series of attacks.

Among these was an imbecile fifty-five years old, who from his earliest youth had suffered from epilepsy, and who in recent years had an average of nine to ten attacks every month without any especial excitement or confusion. Under treatment with amylhydrate the number of attacks was diminished to eight a month. When the administration of the remedy was suspended nine attacks occurred daily during the next six days and the patient died during the last.

The autopsy indicated nothing special except a very marked hyperæmia of the brain.

It may be mentioned that in two patients who had been under treatment by amylhydrate the attacks remained less severe. These were patients who before had had pronounced epileptic convulsions.

The number of Dr. Umphenbach's experiments is small, but the result may suggest caution in the future administration of amylhydrate.—*Therapeutische Monatshefte*, Heft x., 1890.

Hæmorrhoids.

Dr. W. R. Thomas is very confident that the majority of cases of hæmorrhoids we meet with are entirely preventable, and that many of those which are far advanced can be cured by medical treatment alone, but it is necessary when treating them to give due consideration to all the causes and treat each one. Among the factors which have to do with the production of hæmorrhoids, and each one of which should be considered in the treatment, there are many. The valveless condition of the portal veins, gravitation, obstruction owing to hepatic disease, obstruction from hepatic, cardiac, or pulmonary disease, sedentary habits, excessive eating and drinking, excessive obesity, too frequent use of purgatives.

For successful treatment, the patient should have a daily movement of the bowels regularly. Sponging the anus and surrounding parts with soap and cold water, is a very efficient application, thus removing acrid fluids which, during the ensuing day, would irritate the skin. A larger proportion of vegetable diet, and a smaller proportion of meat. Cases of hæmorrhoids with constipation may sometimes be cured by attention to this alone. Sufficient exercise is of much importance. Some patients may obtain relief from a daily injection of as much water as can be retained for four or five minutes with comfort. Lukewarm water may be recommended at first, but as soon as the patients can bear it, cold may be ordered. Those who suffer from hæmorrhoids should, if possible, give up taking stimulants entirely.—*Lancet*, No. 5, 1891.

MEDICINE.

UNDER THE CHARGE OF

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The Pathology and Diagnosis of Pediculated and Globular Cardiac Thrombi.

Ziemssen (*Fortsch. d. Med.*, 1890, 8, 959) adds another instance to the (as he says) five cases of globular thrombi described in medical literature. He describes two instances of large pediculated cardiac polypi of the left auricle, which, he says, produced the same symptoms as the globular thrombi. Basing his opinions upon these three cases, together with cases already described by Hertz, he believes that a probable diagnosis can be made under the following conditions, namely: 1. The presence of a mitral stenosis. 2. The evidence of very great obstruction to the flow of blood in the left chambers of the heart, greater than is wont to occur in the case of simple mitral stenosis. Cyanosis and dyspnœa are, too, unusually intense, and the filling of the arteries extremely meagre, so that the nourishment of the parts of the body furthest removed from the heart is so slight that gangrene may develop. The last symptom was witnessed in all three of the author's cases, and in one of Hertz's.

[Ziemssen has evidently overlooked the case described by Osler (*Johns Hopkins Hosp. Rep.*, ii. 1, 1890) in which a freely movable, round elastic thrombus, the size of a walnut, lay in the left auricle above the much-narrowed mitral orifice. The thrombus had given rise during life to no special clinical symptoms.—Ed.]

Poliomyelitis and Polyneuritis.

Blocq and Marinesco (*Nouvelle Iconographie de la Salpêtrière*) publish a valuable and well-illustrated contribution upon this subject. The existence of infantile acute poliomyelitis is undoubted; that of acute, sub-acute, and chronic poliomyelitis in the adult has, however, been questioned. The authors quote four cases with autopsies from the literature—of which they have made a careful review—as well as one not previously reported, which prove that all three adult forms do exist. They also report a case in detail which presented symptoms analogous to those of acute poliomyelitis, though there were certain psychic symptoms attending them, but which the autopsy showed to be an instance of polyneuritis. The case was very interesting, particularly on this latter account, and approached in its symptomatology a group of cases described by Korsakoff as "psychic, toxæmic cerebropathy," or "polyneuritic psychosis."

As a result of their studies the authors draw the following conclusions:

1. There exist certain morbid conditions which exactly correspond from a

clinical point of view to the disease described by Duchenne under the name of acute and subacute anterior spinal paralysis of the adult, and which are, in fact, dependent upon lesions of the anterior horns of the cord.

2. On the other hand there is a group of symptoms, more or less analogous to the preceding from a clinical point of view, and which may even cause confusion in diagnosis, to explain which no appreciable lesion of the spinal cord can be found.

3. It can be absolutely affirmed in certain of these latter cases that the symptoms are connected with the peripheral neuritis found to be present.

4. There is room to suppose that the cerebral centres, whose participation in the process is proven by the clinical symptoms, play a pathogenic *rôle* in these cases. (Amyotrophic polyneuritis accompanied by psycho-motor affections.)

5. It does not seem possible to determine with positiveness the relation which exists between these amytrophic paralyses due respectively to poliomyelitis and polyneuritis. At the same time the hypothesis which seems most plausible is that of a lesion of the neuro-muscular arc (cerebral motor cells; ganglionic cells of the cord; motor nerves; muscles) by a pathogenic agent which attacks with greater or less intensity the different parts of this apparatus.

Diphtheria.

H. Wolf (*Fortsch. d. Med.*, 1890, 8, 954) has for two years used a combination of menthol with sugar in the proportion of 1 or 2 to 20 in the treatment of diphtheria. This powder he rubs upon the parts affected by the disease. The deposit often sticks to the brush and is removed by it. The brush is then again carried into the throat and the menthol-sugar thoroughly rubbed into the part. This procedure is carried out two or three times daily. Even by the second or third day the dirty-gray appearance disappears, and a clean excavated ulcer remains which quickly heals under the continuance of the treatment. To control the fever he employs antipyretics.

On a Case of Infectious Adenie due to the Staphylococcus Pyogenes Aureus.

Roux and Lannois (*Rev. de Méd.*, 1890, 1011) report a case of adenie in a child which has confirmed them in the belief that certain cases of the disease are of an infectious nature. The child, a girl, eight years of age, had commenced two months before to exhibit large glandular swellings in the neck. When first coming under the observation of the writers, the glands in several parts of the body were found swollen, including those of the neck, axillæ, and groins. There was embarrassment of respiration and evidence of enlargement of the glands of the anterior mediastinum. The tonsils were enormously swollen. The liver was very large, and the spleen quite so. There was no leukæmic condition of the blood. The case ran a course fatal within two weeks, exhibiting during the illness considerable fever, attacks of abdominal pain, increase in the size of the glands, with purpura and multiple hæmorrhages. The blood contained rather numerous very large leucocytes.

At the autopsy there was found hypertropy of the glands and of the spleen, multiple visceral hæmorrhages, large white kidneys, enlargement of the liver, and multiple nodules in the lung, shown by the microscope to be miliary abscesses. Numerous bacteriological experiments are detailed, made with the blood taken during life, with fragments of lymphatic glands, and with the small pulmonary nodules. These proved the presence of the staphylococcus pyogenes aureus in the cultures, and showed that inoculations with these cultures produced, among other lesions, enlargement of the lymphatic glands.

The authors terminate their contribution with the following conclusions:

1. The different glandular affections comprised under the name of pseudo-leukæmia or adenie ought to be separated into two groups, the first of which comprises the lympho-sarcomata, and the second the infectious adenies.

2. The infectious adenies themselves ought very probably to be divided into several varieties; and it is probable that these varieties are produced by different pathogenic agents.

3. The case of the child reported is an instance of infectious adenie.

4. Cultures and experiments show that the causal agent in this case was the staphylococcus pyogenes aureus.

5. It is owing to morphological and biological peculiarities presented by the staphylococcus in this case that the new characteristics, very probably, are to be attributed; resulting in microbic production of simple glandular hypertrophy instead of the formation of pus.

Hydatid Cyst of the Liver.

Shattuck (*Bost. Med. and Surg. Journ.*, 1891, cxxiv. 3) reports an instance of suppurating hydatid cyst of the liver with multiple hepatic abscesses, interesting on account of the difficulty attending the diagnosis and on account of the rarity of the disease in this country. The patient, a woman, twenty-three years of age, exhibited the symptoms of an hepatic abscess which was supposed to be due to gall-stone. There appeared to be moderate enlargement of the liver and spleen, with irregular fever, no jaundice. The sudden death of the patient prevented the thorough study of the case. The autopsy showed the cause to be the presence of an hydatid cyst, as stated. The author knows of only thirteen cases of hydatid cyst reported in this country from 1880 to 1890.

The Etiology of Tuberculosis.

H. P. Loomis (*N. Y. Med. Rec.*, xxxviii. 689) publishes a carefully prepared article based upon the evidence of thirty autopsies and upon experiments upon animals, and proving that tuberculosis may exist in the bronchial glands in adults as well as in children who are not suspected of having any tubercular affection, and in whom the lungs *post-mortem* are found unaffected. During a period of eighteen months over which the experiments extended, the substance from the bronchial glands of forty-eight persons was injected into rabbits. The majority of these forty-eight persons died suddenly, and none of them after any prolonged illness. A careful examination of all the

organs in these persons failed to reveal the presence of any old or recent tubercular process. In eighteen of the cases the inoculated rabbits died too early to allow of conclusions being drawn. Of the remaining thirty cases it was found that the bronchial glands of eight contained tubercle bacilli as shown by the development of tuberculosis in the rabbits inoculated with the substance of the bronchial glands. In five of these eight cases death occurred suddenly from accident while the patient was in the midst of apparently perfect health. The author makes the point that this tuberculosis of the bronchial glands in the apparently healthy cannot but be a constant menace to the individual, and may explain the development of tuberculosis in those without hereditary taint, in which the disease seems to be excited by an acute simple bronchial catarrh, or some other non-tubercular pulmonary disease.

The article contains the case histories of the thirty cases, and the details of the inoculation experiments carried out in each instance.

Report on the Koch Treatment of Tuberculosis.

Osler (*Johns Hopk. Hosp. Bull.*, 7, 1891) describes in detail the results of the series of inoculations with the Koch fluid upon eleven cases of pulmonary tuberculosis. As far as possible cases were chosen which had been under observation for some time, and which presented well-defined but limited lesions, without extensive formation of cavity, or signs of rapid progress of the disease. The cases are reported in detail, and the paper is unaccompanied by any general conclusions. A review of the cases seems to indicate that the first case exhibited considerable reaction at times, finally with the development of albuminuria with casts, and with high fever, as a result of which the injections were discontinued. The amount of sputum was practically unaffected. The bacilli were increased in number and somewhat altered in shape. There was no alteration of the physical signs. In the second case the reaction was slight or absent. Possibly the râles were larger and louder after a month's treatment; in other respects the physical signs were unchanged. In the third case the most noteworthy feature was the great increase in the number of bacilli in the sputum. The patient lost some in weight; there was not much reaction after the inoculations, nor much fever at any time; elastic tissue appeared in the sputum near the date at which the observations are reported. The râles were not so large and loud; otherwise there was no change in the physical signs. In the fourth case, under treatment for two weeks, no special change had yet occurred in the general or local condition. The amount of the sputum was diminished. The fifth case exhibited a decided diminution in the amount expectorated; but no change in the physical signs after three weeks of treatment. Reaction was absent or very slight. The sixth case exhibited nothing to note. The reaction was sometimes well marked. The condition of the physical signs after two weeks' treatment is not stated. The seventh case had no bacilli at the outset, and seemed to be one of bronchiectasis. No reaction, except a slight rise of temperature, was developed by the inoculations. Bacilli were soon, however, constantly found in the sputum in small numbers. In the eighth case there was nothing to note. The ninth case had been

under observation too short a time to allow of any conclusions. The reaction was slight or absent, except on one occasion, when it was well marked. In the tenth case, under treatment for nearly two weeks, there had been no essential change and no reaction. The eleventh case had had but a few inoculations; there had been no general reaction.

Two cases of pleurisy, suspected of being tubercular, also received the treatment. The first exhibited well-marked reaction from two inoculations, but six other injections were not followed by fever. In the second case the sputum increased, and then again diminished in quantity. The physical signs were unchanged. The reaction was sometimes fairly well exhibited.

Bacteriological-chemical Investigations on Tubercle Bacilli.

A. Hammerschlag (*Centralbl. f. klin. Med.*, 1891, 9) contributes a study on certain points regarding the chemical and metabolic characteristics of the bacilli of tuberculosis. The conclusions which he draws are as follows:

1. Tubercle bacilli contain fat, lecithin, albumin, cellulose, and a poisonous substance which produces convulsions when injected into rabbits and guinea-pigs.

2. The characteristic tinctorial nature of the tubercle bacilli depends upon a peculiar arrangement of the albuminous substance and the cellulose in the body of the microbe.

3. Carbo-hydrates and glycerin are substances indubitably necessary to the nourishment of the bacilli.

4. In cultures the bacilli produce an albuminous substance which produces rise in temperature in rabbits inoculated with it.

5. The bacilli could be with certainty robbed of their virulence by cultivating them during eight months in glycerin-bouillon at a temperature of 38–39° C. These weakened cultures did not, however, seem to have any power of giving immunity to the disease.

The Relation Between Pulse-curves and Valvular Lesions.

As a result of sphygmographic studies in cases of well-compensated mitral disease, v. Noorden (*Centralbl. f. d. med. Wissensch.*, 1891, 26) discovered that in mitral stenosis the pulse had a higher tension than in healthy men; while in mitral regurgitation the tension is less than normal. Under the same conditions, *i. e.*, in the presence of good compensation, a pulse-curve with marked elastic vibrations and slight dicrotism indicates a predominance of stenosis of the mitral orifice; while slight vibratory variations and marked dicrotism is diagnostic of a predominance of mitral insufficiency. In explanation of these facts the author assumes that not only the heart muscle, but the arterial system as well, has to do with the establishment of compensation. In mitral stenosis, namely, the work of compensation is thrown on the right heart. If, now, the systemic arteries contract, with a consequent increase of tension, a less degree of fulness of the left ventricle will suffice, and the burden of the right ventricle is thereby lessened, since it no longer needs to pump the normal amount of blood into the left side of the heart. The increase of the work for the left ventricle, due to the increased tension, is easily overcome

by it. As additional signs of the increased tension in pure mitral stenosis there is not infrequently an accentuation of the aortic second sound, and a moderate increase in the thickness of the wall of the left ventricle.

In mitral insufficiency the pulse has a tendency to become large and soft, and usually accelerated. Since in this affection two paths are open for the blood during systole, the peripheral vessels must necessarily dilate and thereby diminish the resistance as far as possible, in order that the greater part of the blood may enter the aorta, consequently there is observed the suddenly rising pulse-wave and the marked dicrotism, as in cases of fever, together with a more rapid succession of heart-beats, in order to prevent a too long continuance of the low tension.

Two Unusual Cases of Pneumonia.

Kelynack (*Med. Chron.*, Nov. 1890) reports two cases of pneumonia occurring in a man and his wife, both of which present several points of interest.

As one of the patients—the woman—was taken sick but a short time after the other, the possibly contagious character of the disease is to be considered or the origin of both cases from some common miasmatic cause. The possibility of complicated enteric fever was considered, but such a conclusion was apparently unwarrantable. The unusual nervous symptoms are worthy of note. In the woman a peculiar tetanoid condition developed, which lasted several days. In the man there were choreiform movements with severe myalgia, distinct arthritis of the ankle, and intense muscular hyperæsthesia of the lower extremities. From a therapeutic point of view the cases indicate the value of continuous ice-cold applications as the only reliable antithermic agents.

The Pulse and the Arterial Tension in Aortic Stenosis.

Hagen (*Med.-chirurg. Rundsch.*, 1890, 605) refers to the views of Oppolzer, Rosenstein and Eichhorst, all of whom agree that during the systole an amount of blood less than normal passes through the narrowed aortic orifice, and that as a result of this the pulse becomes, *rarus*, *parvus*, *tardus*, and *durus*. They differ, however, in the method of explaining these phenomena. Basing his observations upon two well-marked cases the author endeavors to determine the method of the production of the pulse-characteristics. In both of the cases the radials and temporals were very prominent without thickening of the vessel-walls, without visible pulsation, compressible only with difficulty, not collapsing after the pulse-wave had passed, and having only slight elevation during the wave. He believes that the overfilling of the arteries in aortic stenosis is due to a loss of elasticity in the vessel-walls, which, as a result, can only slowly propel the blood onward, and consequently dilate more and more. The hardness of the pulse he attributes to the strong cardiac contraction, the diminished elasticity, and the overfilling of the vessels. He thinks that these pulse-characteristics occur only in pure aortic stenosis, and are pathognomonic of this affection.

Ehrlich's Test in Typhoid Fever.

C. E. Simon (*Johns Hopk. Hosp. Bull.*, 1890, 93) refers to the nature of the diazo compounds, and their tendency to enter into combination with aromatic bodies, and cites the first experiments of Ehrlich while endeavoring to discover some of these aromatic bodies in the urine. Owing to the controversy which arose regarding the diazo reaction, especially as to its diagnostic import in typhoid fever, the test has come to be regarded by many as a medical curiosity of no clinical value whatever. The author, however, is convinced by his experience that the original work done by Ehrlich is not appreciated, since his own results fully coincide with those which Ehrlich obtained. After explaining the chemical nature of the reaction as far as it is understood, and the methods which Ehrlich advocated, he details the modification which he has found most convenient as well as most delicate. Two solutions are made, one of 50 cc. of hydrochloric acid in 9950 cc. of water, and this saturated with sulphanilic acid; the other of a one-half per cent. solution of sodium nitrite. To make the test, 40 cc. of the first solution is thoroughly agitated with 1 cc. of the second. A few cc. of this is next thoroughly shaken in a test-tube with an equal quantity of urine. One cc. of ammonia is now allowed to run down the side of the test-tube, forming a colorless zone above the mixture, and at the juncture of the two a more or less deeply colored ring will be seen, the slightest carmine tint—the characteristic of the diazo reaction—being made out by contrast with the colorless layer above and the yellow urine below. Various plays of color may appear in different urines, but in that of typhoid fever there is produced a red coloration, which may vary from an eosin to a deep garnet. Simon has examined the urine of almost every disease which has occurred in the wards of Johns Hopkins Hospital, but has observed the reaction only in cases of typhoid fever and phthisis pulmonalis. He has had no opportunity of searching for it in cases of contagious fevers, in which Ehrlich has occasionally found it present.

The report now made is based upon observations in thirty-six cases of typhoid fever, and the details of the examinations of these are given. The results which he obtained lead him to conclude that, with the methods of examination given by Ehrlich, the reaction may be obtained without difficulty in typhoid fever from the fifth to the thirteenth day of the disease, and that with his own modification it may still be seen as late as the twenty-second day. Its absence from the fifth to the ninth day indicates a very mild case, excepting in children, although this rule is probably not an absolute one. As it occurs previously to the appearance of the rash, it is a very useful aid in the diagnosis in typhoid fever.

Amœba Coli in the Sputum in a Case of Hepatic Abscess.

Simon (*Johns Hopk. Hosp. Bull.*, 1890, 97) reports a case of abscess of the liver in which perforation had taken place into the lung, and the giant amœbæ were detected in the expectoration. The patient, aged twenty-nine, complained of cough only. He had been a sailor formerly, and had been in the West Indies in 1883. In May he had had constipation and pains in

the side; no diarrhœa, except after laxatives. In June he came under treatment elsewhere, and soon after began to cough up blood-stained mucus. At times there was a little blood in the stools, but no diarrhœa.

The cough and expectoration continued, he had two or three stools a day containing mucus and blood. He had no chills, but at times fever and sweats. On the day of admission to the hospital, October 5, 1890, the expectoration was noticed to be of a peculiar rusty, reddish-brown color, purulent, and with an odor resembling that of anchovy sauce. Actively-moving amœbæ were found in it, at once calling attention to the bowels and liver. After admission there was no diarrhœa, but one or two well-formed stools a day containing traces of blood and a little mucus, and amœbæ in great numbers. The liver was not enlarged anteriorly, but considerably enlarged behind. There was dulness and feeble somewhat tubular breathing at the base of the right lung, but no definite signs of a cavity. There were elastic tissue and alveolar epithelium in the sputum, but no tubercle bacilli. The temperature was only slightly elevated. The diagnosis in this case rested solely on the examination of the sputum, as attention would never have been called to the actual condition by the character of the stools.

SURGERY.

UNDER THE CHARGE OF

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THE PRESENT POSITION OF ANTISEPTIC SURGERY.

In an address (*Annals of Surgery*, January, 1891; *British Medical Journal*, Jan. 10, 1891) delivered in the post-graduate course of the University of Toronto, DR. J. WILLIAM WHITE replies to Mr. Tait's recent criticism of Sir Joseph Lister's Berlin address. After reviewing Tait's position, he says:

The antiseptic treatment of wounds might, under Mr. Tait's ruling, be described as a treatment directed against the causes of putrefaction in wounds; but a more accurate definition expands it, as Mr. Cheyne has suggested, so as to include treatment directed against the cause, not merely of the putrefactive fermentation, but of all fermentations.

The sterility of the blood and tissues is denied by Mr. Tait, who says: "The germs exist already in the blood and elsewhere, and are ever present, according to the best authorities." The elaborate and carefully-conducted experiments of Hauser, Watson Cheyne, and others completely contradict this

statement, which is really the foundation of Mr. Tait's argument. The germ theory of fermentation is undisputed. Fermentation in wounds can, therefore, be prevented by the exclusion of germs; it has been shown microscopically that these can be kept out (asepsis) or can be destroyed (antisepsis); practically, therefore, it only remains to show the effect upon patients with operative or other wounds of excluding or destroying germs to show the value or lack of value of antisepsis and the antiseptic theory. By looking back a few years to the very beginning of the employment of antiseptics, we can obtain the most striking and convincing evidence of the effect of treatment directed almost exclusively, though then very imperfectly, against the introduction of bacteria.

The record of the work of Professor Lister may well begin our series of examples. In Glasgow, in 1864, 1865, and 1866, Mr. Lister's mortality in a series of operations of all sorts was 45.7 per cent., largely from septic diseases. About this time he began to employ gradually some antiseptic methods in his treatment of wounds and during operations. In 1867, 1868, and 1869, his mortality fell to 15 per cent. At Edinburgh, having greatly improved the details of his system, we find that from 1871 to 1887 he treated 553 grave surgical cases, with a mortality from septic disease of only 0.36 per cent., a diminution in the death-rate which, when we remember that these different results were obtained by the same man operating upon the same class of patients and for the same injuries or diseases, is so striking as to be in itself conclusive. The statistics of Volkmann and others are then given, showing with equal force the astonishing change wrought in surgical results by the introduction of antisepsis. Mr. Tait endeavors to break the chain of reasoning by saying: 1, that the germs are everywhere and cannot be got rid of—a misstatement—and 2, that the presence or absence of sepsis depends on the presence of "pabulum"—that is, dead organic matter, blood-clot, serum, etc. It has been one of the axioms of antiseptic surgery from the beginning that scrupulous attention should be paid to hæmostasis and to drainage. No one has taught this more earnestly than Lister and his followers, and Tait's adoption of it as his "view" is evidence of his ignorance of the work of others.

It is easy to say, as Mr. Tait does, that if you have nothing to decompose there will be no decomposition, for that is what it amounts to. "Get out all decomposable matter," he says, "and you can let the germs in freely," but in practical surgery this is by no means always possible. Mr. Tait deals habitually with a membrane, the peritoneum, which has a remarkable power of self-protection. Microbes gaining access to the abdominal cavity are exposed to destruction either by the serum which it copiously exudes, or by a possible phagocytic action of its enormous numbers of endothelial cells, or by both.

Mr. Tait's remarks against dosage are further evidence of his want of acquaintance with Listerian work and teachings. He says: "With the Listerians one germ is as good as a thousand." It is safe to class Mr. Watson Cheyne, who has just been quoted, as a "Listerian." In Mr. Cheyne's lectures on "Suppuration and Septic Diseases," he not only asserted, but proved experimentally, that the number of bacteria introduced modified greatly the intensity of the symptoms and even the character of the disease.

Similar observations have been made by Passet, Pawlowsky, and others, and are as well known as any in connection with antiseptic surgery.

It is evident that what is original in Mr. Tait's "hypothesis" is not true, and that what is true in it is not original.

Dr. White then replies to Tait's attack on the double-cyanide dressing (which he characterizes as "deadly and dangerous"), giving a tabulated statement of 195 cases healed with this dressing, with the course of the case and its results.

Of the five deaths in this list, two were due to preëxistent and chronic disease; the other three were abdominal cases, operated on with the patients almost *in extremis*, with swollen bellies, intestinal paresis, and in one case with suppurative peritonitis. In the whole list there were not six freely suppurative cases, and there were no cases of septic trouble and no deaths from any form of blood-poisoning.

He then discusses the relative merits of asepsis and antisepsis, and concludes as follows:

"It cannot be disputed that in the light of modern science the operator has a twofold duty, namely, to prevent the entrance of living pathogenic microbes into the wound, and at the same time to preserve the vitality of the tissues themselves. We have abundant reason to believe in a general antagonism between the body-cells and the microörganisms of disease, and it follows that the theoretical propriety of non-interference with these tissues cannot be doubted, and Lister plainly admitted and accepted this new view when he said that the floating particles of the air having been shown to be less harmful than was supposed, we may possibly dispense with antiseptic washings and irrigation, 'provided, always, that we can trust ourselves and our assistants to avoid the introduction into the wound of septic defilement from other than atmospheric sources.'

"When this method is adopted it is evident that all strong antiseptic solutions which might compromise the vitality of the tissues must be discarded; instruments, silk, ligatures, sponges, etc., must be sterilized by heat, hands must be washed clean in sterilized water (after previous chemical disinfection), and the same is true of the skin over the field of operation. If antiseptic solutions are used at all they must be very feeble—1 to 60 carbolic for instruments (after previous sterilization by heat), 1 to 10,000 sublimate for sponges, etc.

"In the meantime, however, while waiting for further improvement in this direction, I have felt and still feel that it is safer in a large general clinic to depend upon full antisepsis rather than upon asepsis."

Resection of the Sacrum in Intra-pelvic Operations.

A. Broca (*Gazette Heb. de Méd. et de Chir.*, No. 40, t. xxvii. p. 467) presents an interesting article upon preliminary resection of the sacrum in operations upon the pelvic organs. These operations are of two kinds: in one the resection is final, the bone being removed; in the other, the resection is temporary, and the bone is restored after the operation. In the first operation, that of Kraske, a longitudinal incision is made in the median line from the middle of the sacrum to the anus. The tissues are divided to the bone.

The gluteal muscle and the sacro-sciatic ligaments are divided; and then with the chisel and mallet the lower left half of the sacrum is removed as far up as the third sacral foramen. The canal is not opened if the division of the bone is made somewhat to the left of the median line. This, however, is not a matter of much importance.

The temporary resection, with an osteo-cutaneous flap, was proposed by Heinecke for cancer of the rectum, and has been performed by Hégar for a gynecological operation.

A Y-shaped incision is made over the sacrum commencing an inch and a quarter below and within the posterior inferior spine of the ilium and ending at the tip of the coccyx. The upper flap is left adherent to the posterior surface of the sacrum. The muscles and ligaments are separated from the bone, and the rectum is removed from the anterior surface. Then the sacrum is divided with a chain-saw along an oblique line the right extremity of which is between the third and fourth sacral foramina, the left extremity at the sacral cornu. When the bone has been divided the flap with the skin is raised and replaced at the end of the operation.

M.M. Lévy and Delbet have modified the form of the operation by making the bone-flap from the lower part of the sacrum cut transversely across. This has the advantage of preserving the insertions and the strength of the pelvic floor.

By resection of the sacrum free access is obtained to the pelvic contents. The operation is indicated in cancer of the rectum, for hysterectomy, and for some cases of pelvic abscess; especially those which are separated from the general peritoneal cavity, and are not accessible for extirpation.

Hydatid Cyst of the Spleen.

Braine (*Annales de la Policlinique de Paris*, No. 2, p. 49, 1890) reports an interesting case of hydatid cyst of the spleen. The patient was a man, thirty-four years old, who lived in Normandy, and who had always been surrounded with dogs. In 1884 a tumor appeared in his left side which troubled him only on account of its size. In July, 1887, this tumor was tapped, and over three quarts of fluid were withdrawn. In the following October the cyst had refilled, and had reached its original dimensions. Laparotomy was performed one month later. Over two quarts of sero-purulent fluid were withdrawn by a trocar. The cyst was found to be attached to the spleen, and as it was impossible to remove it the puncture in the cyst was enlarged and the walls stitched to the abdominal wound. The patient recovered perfectly, and six months after the operation the abdominal wound was firmly closed throughout.

The Management of Fractured Limbs.

As the result of personal experience, von Donhoff (*New York Medical Record*, vol. lii., No. 20) states that the best results are obtained by first securing absolute reduction, aided, in case of fracture of the shoulder, elbow, wrist, hip, knee, or ankle-joint, by the exhibition of an anæsthetic. Next the limb should be scrupulously cleansed and the replaced fragments should be fixed in position by means of a plaster-of-Paris roller adjusted over cotton batting.

The first roller is permitted to harden somewhat before the succeeding ones are applied; the limb is then swathed, as usual, in a plaster bandage.

In fractures about the elbow the joint is fixed at an angle of 110°, because in case of ankylosis this gives the most useful limb.

The anæsthesia may be prolonged sufficiently for the plaster to harden. In two or three days the latter is carefully divided into two equal halves longitudinally, and the upper half lifted off without disturbing the limb. If the bones are in good position this upper half is again reapplied. Three days later the patient is again anæsthetized and the dressing entirely removed. If the fracture is about joints passive motion should be practised. The limb is then lightly swathed in batting, and the whole is held in position by two leather splints previously cut in shape by measurement. On the following day the upper half of the splint is lifted off and slight passive motion is practised. On the eighth or tenth day the casing is removed, its halves are bent back at the posterior border and the anterior edges are provided with shoe-lace hooks. After five days the bandage is removed and passive motion practised, after which the splint is entirely discarded during the daytime and worn only at night, the patient being instructed to practise gentle motions with the injured limb. At the end of the fourth week the cure is completed.

The results in 165 fractures treated by this method were entirely satisfactory. The author strongly urges that fixation apparatus should be discarded except at night by the fourteenth or fifteenth day.

Cysts of the Pancreas.

A report of two cases of cyst of the pancreas, which were operated upon by Karewski, is given in the *Medical Press and Circular*, New Series, vol. iv., No. 2689, p. 492.

In both cases the disease followed a fall upon the side. In the first case the tumor was noticed for the first time four weeks after the accident. The man suffered with colic-like pains, dyspepsia, vomiting, and marked emaciation. Exploratory puncture revealed a large quantity of cholesterin crystals, which have been pointed out by Küster as characteristic of pancreatic cysts. Abdominal section was performed, and the cyst was tapped and sutured to the abdominal walls. Recovery was easy. The sinus was closed six weeks after operation.

The second case presented similar symptoms to the first, and recovered easily after operation.

In both these cases cyst of the pancreas was diagnosed before operation.

Contusions of the Abdomen.

M. Moty (*Revue de Chirurgie*, No. 11, 1890, p. 878) presents a valuable paper on contusions of the abdomen, with special reference to injuries from horse-kicks—accidents of frequent occurrence in the army.

He divides the cases into three classes: the light, medium, and grave. The first class includes contusions in which the intestines and other important organs have escaped injury; simple contusion of the mucous membrane of the intestine without lesion of the other coats; cases in which a small per-

foration exists without escape of intestinal contents, and followed by speedy closure from adhesion.

This first class is diagnosed by the progressive disappearance of the symptoms of shock, and the absence of signs of perforation and extravasation.

The second class includes those cases which present some complication—as acute general peritonitis, rupture of a large vessel, or of important viscera: that is to say, all those cases which require a treatment of two or three weeks.

The third class includes those in which rupture or extensive laceration of the intestine has taken place.

Even in the mild cases the prognosis should always be reserved for one or two weeks on account of the possibility of peritonitis appearing later, either from the yielding of the bruised intestinal wall, or from infection through the muscular and serous coats, after destruction of the mucous coat.

An extensive contusion of the intestine is often more dangerous than a small perforation. The fact is well illustrated by a case of Jobert's. A man received a contusion of the abdomen by being run over by a carriage, and recovered perfectly in ten days. He died a month later of pneumonia, and the autopsy revealed a small perforation of the jejunum closed by adhesion to the omentum. Cicatricial contraction and consequent stricture of the intestine sometimes follow severe contusions of the abdomen.

The author considers that one of the most characteristic signs of perforation of the upper part of the gastro-intestinal tract is acute pain following a few seconds after the injection of fluids.

He arrives at the following conclusions:

1. Horse-kicks of the abdomen in many cases produce grave lesions of the intestines.

2. These lesions are perforations produced in three ways: by rupture, by crushing, and by laceration.

3. The diagnosis of perforation can often be established by the acute pains resulting after the injection of fluid.

4. Large perforations and ruptures demand laparotomy and intestinal suture.

5. This operation may be successfully performed notwithstanding the presence of peritonitis.

6. Exploratory laparotomy—for diagnosis—is not permissible. The expectant plan of treatment is always indicated in case of doubt.

7. The prognosis of contusion of the abdomen should be reserved for a month, in view of the complications which may result.

Stab-wound of the Thorax and Abdomen.

Brokaw (*St. Louis Courier of Medicine*, vol. iii., No. 6, p. 257) reports a remarkable case of very extensive stab-wound of the thorax and abdomen. The thoracic wound extended from the third rib to within one inch of the navel. The lung was wounded, and the cartilages of the fourth, fifth, sixth, seventh, eighth, and ninth ribs were divided.

The abdominal wound extended from the right of the navel to within two inches of Poupart's ligament on the left side. The abdominal wound was six

and one-half inches in length. There was almost complete evisceration. There was an extensive wound of the mesentery, but no wounds of the intestines. He was operated upon one and one-half hours after the injury.

Four large branches of the mesenteric artery were tied. The abdomen was freely washed out with hot water and drained with the glass tube. The costal cartilages were sutured with silk, and the interchondral spaces were drained with iodoform gauze.

The recovery was remarkably easy, the temperature never rising above 100⅘° F.

The lung was at no time more than partly collapsed—a fact explainable by the presence of old pleuritic adhesions.

OTOLOGY.

UNDER THE CHARGE OF

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Otorrhagia in Cirrhosis of the Liver.

Dr. Robert Leudet, of Rouen, France, contributes an article with the above title, illustrated by a case (*Annales des Maladies de l'Oreille*, etc., October, 1890). Hæmorrhages are not uncommon in diseases of the liver. In the entire list, however, Leudet has not been able to find any mention of hæmorrhage from the ears, as occurring in the course of hypertrophic cirrhosis. The author has observed in one case only, viz., cirrhosis of the liver, a series of hæmorrhages from the ear. The subject was forty years old, a laborer in a storehouse of wines and liquors, and had been for several years a hard drinker, especially of rum. Hæmorrhages occurred frequently from the left ear, for two weeks, during his stay in the hospital. The patient then left the hospital, and was no longer observed.

Bacteriology of the Contents of the Eustachian Tube in Chronic Catarrhal Inflammations of the Middle Ear.

Drs. Maggiora and Gradenigo, of Turin, have made a long series of observations on the above-named subject. Their conclusions are that "at least in the sclerotic or dry period of otitis, the diseased process does not depend upon an infection demonstrable by any of our methods of research, but we cannot deny that we are inclined to the assumption, on the ground of clinical experiences, that in the hypertrophic and secretory stage of the naso-pharyngeal inflammation that the process depends upon some specific microörganism." (*Centralblatt für Bakteriologie u. Parasitenkunde*, October 30, 1890.)

Use of Pyoktanin in Ear Disease.

Dr. Robert Barclay, of St. Louis, Mo., reports the result of the use of pyoktanin (methyl-violet) in chronic purulent otitis media in eight cases (*St. Louis Courier of Medicine*, November, 1890). The strength of the watery solution was 1 to 1000. The results have been exceptionally good and prompt. The application has been made by instillation usually. [The yellow and the blue pyoktanin appear entirely innocuous, even in much stronger solutions, as they have been employed by us in strengths of ten and twenty grains to the fluidounce for mopping, not for instillation.—R.]

Pyæmia and Thrombosis of Internal Jugular Vein from Otitis Media; Trephining Mastoid and Opening Lateral Sinus.

Dr. W. W. Keen has recorded an interesting case with an operation, unique in this country (*Philadelphia Times and Register*, December 20, 1890). The patient, a man, thirty-one years old, had had a chronic otorrhœa for eight years. Five months previous to consulting Dr. Berlet, who finally called Dr. Keen in consultation, the patient had consulted an alleged specialist, who had put something into his ear, which caused intense and prolonged suffering. From that time the patient gradually developed pyæmia. On November 16, 1890, the patient had a fœtid discharge from the right ear, which showed a perforation in the membrana tympani. The mastoid was but slightly swollen; it was moderately painful upon pressure, with a little pain just above and behind it, but no pain over the course of the lateral sinus, between this point and the inion. Over the mastoid process the neck was extremely tender, though but little swollen. The jugular vein could not be felt. The patient had difficulty in swallowing, and was somewhat hoarse. He was a little jaundiced, and the liver was rather tender. There was some dulness on the whole of the right side from slight pleuritic effusion. No headache. Beginning choked discs.

The mastoid was then trephined, and a considerable amount of cheesy fœtid pus was evacuated. The bone was then chiselled away backward and upward so as to expose the lateral sinus. The mastoid vein was cut early in the chiselling, but the profuse hæmorrhage was checked by plugging with iodoform gauze. In this way three-fourths of an inch of the sinus was exposed, which looked dirty yellow, with a tinge of brown and green. It felt soft to the probe, but was detached from the bone, so that a probe could be easily passed downward and forward for over an inch, thus evacuating a little offensive pus. Dr. Keen then exposed the jugular vein in the neck. The tissues were found quite firmly bound to one another by inflammatory adhesions, but the vein was exposed after some difficulty, and found thickened, but *almost entirely collapsed*. A ligature was then thrown around it, an inch and a half above the clavicle. On cutting the vein above the ligature very little blood oozed out, but fragments of an excessively fœtid clot were evacuated from its interior. The facial vein, where it enters the jugular, was thrombosed. The part of the vein from the ligature up to the facial was then removed, and the gaping mouth of the vein above sewed to the skin by two stitches. Next the lateral sinus was opened. A violent gush of blood

followed. It was instantly plugged with iodoform gauze before more than one ounce and a half of blood had been lost. The wound in the neck was now closed in the ordinary manner, and drainage maintained by horse-hair.

For the first twenty-four hours the patient did well. His temperature did not rise above 102°, and his general condition was good. He then had an attack of hæmoptysis. Some hours later he was seized suddenly with dyspnœa, "evidently due to extension of the clot in the jugular vein into the lungs, or else to an embolus which was detached and passed into the pulmonary vessels." He then died in one hour. No post-mortem could be obtained.

The operation of ligation of the internal jugular in such cases was alluded to in the chapter on Otology in this journal, December, 1890.

Fatal Ear-diseases.

Dr. F. Kretschmann, of Magdeburg, has delivered a lecture with the above title before the Society of Physicians of the Magdeburg district (date not given). The opening words are those of the late Professor von Troeltsch: "Ear-diseases are among the most serious and most frequent maladies to which the human organism is exposed." This is due to the fact that catarrhs of the upper respiratory tract invade the mucous membrane of the middle ear. A large number, therefore, of chronic aural affections are caused solely by catarrhs, or other pathological conditions of those parts. Furthermore, a large contingent of aural diseases are induced by measles, scarlatina, typhoid fever, smallpox, whooping-cough, influenza (as of late), syphilis, and tuberculosis. Von Troeltsch estimated that in every three individuals in middle life, at least one has imperfect hearing in one or both ears.

Among the results of aural diseases is first placed loss of hearing, which interferes with the labors and pleasures of life; occurring in childhood it renders the young child mute, and in any case interferes with its education. Among other discomforts are subjective noises in the ear, which are often harder to endure than the deafness. Psychoses, in those predisposed, are often induced by tinnitus aurium, and disturbances of equilibrium are often caused by chronic ear-disease.

A very accurate and concise description is then given of the anatomy of the external, middle, and internal ear, and the relation it sustains to neighboring and vital parts in the cranium.

Meningitis from otitis is generally found at the base, rarely on the convexity of the brain. Its course is usually very short, lasting only two days, when death closes the scene. Cerebral abscesses are frequently caused by chronic purulent otitis. They are most frequently found in the temporal lobe, and, in the cerebellum, are usually separated from the surface of the temporal bone, and the pus-nidus in the same, by a thin layer of healthy brain-substance. Half of all abscesses in the brain are due to chronic purulent processes in the middle ear. Their diagnosis is often obscured by the presence of meningitis. Extensive destruction of brain-substance can occur without fever or disturbances in mobility, sensibility, or intelligence. In most cases, however, complaint is made at intervals of headache, combined with nausea and vomiting, which is, at first, sometimes mistaken for migraine.

In abscesses of the cerebellum there is constant pain in the occiput. There may occur vertigo, unsteady gait, hectic fever, inequality in the pupils, choked discs, defective memory, and slow pulse, and sometimes aphonia. Death results either from cerebral pressure or from meningitis induced by rupture of the abscess within the cranial cavity.

Perhaps the most frequent cause of death from chronic purulent otitis media is pyæmia, brought about by phlebitis of the cerebral sinuses, usually of the lateral sinus. Systemic infection from a thrombus in such cases shows itself by chills, followed by sudden rise in temperature. The fall in temperature is just as sudden, accompanied by excessive perspiration.

In some cases erosion of large veins or arteries near the ear is the cause of death. In other instances cholesteatomatous collections form in the tympanic cavity or in the mastoid antrum; more commonly in the latter. Pressure from these masses upon surrounding bone leads to atrophy and erosion of the same. In this way the cranial cavity, the transverse sinus, the external auditory canal, or the labyrinth may be broken into, and meningitis, cerebral abscess, or pyæmia be set up.

Carcinoma and sarcoma may appear in the chronically diseased ear, the first being developed from an old otorrhœa, originating from the epithelium of the auditory canal or the drum-cavity. Its duration is about one year and a half. It usually attacks those between forty and sixty years of age.

Sarcoma develops generally from the dura mater or from the periosteum of the mastoid process. Its course is more rapid than that of carcinoma, being only from three to six months. It occurs most frequently in children.

Thus it is shown that a purulent process in the ear is no trifling matter.

OPHTHALMOLOGY.

UNDER THE CHARGE OF

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The Operative Treatment of Ptosis.

Dr. Heisrath, of Königsberg (*Berliner klinische Wochenschrift*, January 19, 1891), has, by his experience with excision of portions of the conjunctiva for granular disease of that membrane, been led to adopt an allied procedure for the relief of ptosis. His operation removes a strip of the tarsal cartilage with the corresponding portion of the conjunctiva, and brings the edges of the wound together with three or four sutures, which are allowed to remain

until the fourth day, the patient being confined to bed or to his room. The length of the strip parallel to the palpebral fissure is about that of the lid, and its width equal to the additional height to which it is desired to have the upper lid raised. The operation can be done under cocaine, as it is not prolonged, and even without complete anæsthesia will not cause great discomfort.

The Division of Anterior Synechiæ.

W. Lang practises and recommends (*Royal London Ophthalmic Hospital Reports*, December, 1890) the general division of these cicatricial connections between the iris and cornea, whether left after cataract extraction, accidental wounds, or perforating ulcers, either large or small; and whether the connection be merely between the anterior surface of the iris and posterior surface of the cornea, or the iris or lens capsule be entangled in the wound. The division is accomplished with a blunt-pointed knife. In dealing with incarcerated capsule or thread-like synechiæ, the elasticity of the structure to be divided makes necessary quite free movements, and sometimes one or more repetitions of the operation. In such cases it is well to put the synechia on the stretch by the use of eserine or atropine, according as it is peripheral or central.

Large adherent leucoma should thus be treated soon after the anterior chamber is well established, and before corneal staphyloma occurs, or secondary glaucoma sets in. Were this generally attempted, many eyes would be saved from loss through these pathological conditions. Even where the leucoma seems to extend up to the very edge of the cornea, it must be remembered that the angle of the anterior chamber extends back of the sclera to a region very rarely or never involved in perforating ulcers. So that it is possible even in these cases to pass the blunt-pointed knife back of the synechia and sever it.

Glioma of the Retina.

J. B. Lawford and E. T. Collins (*Ibid.*) present a study of the records of sixty cases, five from private practice, the others from the service of the Moorfields Hospital in the last twenty years. As to sex, males slightly predominate. The age at which the presence of the growth was first noticed, as near as this could be determined, was, at birth in five cases; during the first year in seventeen others; during the second year in thirteen; and the oldest patient was seven years. In all of the cases included, the microscopic examination of the enucleated eye conclusively established the diagnosis of glioma. In eight cases there is known to have been permanent recovery—that is, the patient was alive and well more than three years afterward, longer than the latest recurrence of the disease after removal. Six others are known to be still alive, but three years have not elapsed, and in one of them the other eye is involved. Twenty-eight of these cases are known to have terminated fatally; the longest duration of life after the operation in any of these fatal cases was fourteen months. The average interval between the discovery of the disease and the removal of the globe, was: in six cases that are known to have recovered, four months; and in sixteen cases that termi-

nated fatally, fourteen months. Family history seemed to throw no light on the etiology of the affection. No instance was found in which it had attacked more than one member of the same family. These statistics, which agree in the main with those previously recorded, teach that glioma is not a hopeless condition as regards life, but that the chances of cure are greatly diminished by delay of removal of affected eye or eyes.

Indications for Enucleation or Evisceration of the Eyeball.

Dr. Braunschweig, from a general review of the subject (*Deutsche medicinische Wochenschrift*, January 8, 1891), comes to the following conclusions: The orbit is to be emptied of its contents for malignant new-growths that have emerged from the eyeball, or which, without starting from the eyeball, which may be sound, have so involved the other orbital contents that nothing less will secure their complete extirpation.

Enucleation is to be resorted to for intraocular tumors that have not perforated the sclera, and therefore have not involved the extraocular tissues; for intraocular disease that tends to extend centripetally through the optic nerve or its sheath, as glioma of the retina or sympathetic ophthalmitis. Enucleation is also to be used instead of evisceration, when the utmost reduction of pain and shortening of the period of healing are aimed at, without regard to the cosmetic result.

Evisceration is to be undertaken when something must be done for increase and change of form of the globe, independent of new-growths, as staphylomatous degeneration; for panophthalmitis whether or not it involves the orbital cellular tissue; for disease confined to the scleral contents, as foreign bodies in the interior of the globe, irido-cyclitis, glaucoma, or sympathetic ophthalmia; and for wounds that exclude the hope of preserving the eyeball.

Quinine Blindness.

Dr. G. E. de Schweinitz reports (*Ophthalmic Review*, February, 1891) on the ophthalmoscopic appearances and the pathological anatomy of the nerves and centres in quinine blindness as developed experimentally in dogs. When the drug was given hypodermically—from one to four grains to the pound of the animal's weight, blindness, generally accompanied by more general disturbances, was apparent in from three to fourteen hours. It remained practically complete in one animal until twenty-nine days, when it was killed. In another there was slight return of vision after thirty-six hours of blindness.

In all, the pupils were immovably dilated, and the ophthalmoscopic appearances were similar to those of quinine amaurosis in man. In one there was complete obliteration of the vessels, and in another blurring of the optic discs. In one case, two days after the quinine was given, blindness being complete, a constriction was noted in one of the veins as though a thrombus had formed, and the microscopic examination verified the diagnosis. The specimens examined microscopically included the eyes, nerves, chiasm, tracts, and occipital lobes. They were hardened in Müller's fluid, cut by the paraffine method, stained by borax carmine and indigo-carmine, and degenerations sought by Weigert's method. Cross-sections of the nerves showed, in some, a

widening of the connective-tissue trabeculæ, and spreading apart of the individual nerve fibrils, as if the tissue were œdematous and swollen. In sections taken from the cuneus there was in all instances a remarkable dilatation, of the pericellular lymph spaces with degeneration of the protoplasm of the cell. This was probably most marked in the dog longest blind. It is pointed out that these appearances may be due to imperfections in the hardening process. Except the single case of clot in the central vein, no positive microscopic lesion was made out. But, even in dogs blind a month, there is no atrophy of the nerve fibres in the ordinary sense; neither is there any appearance of neuritis in the earlier stages.

DISEASES OF THE LARYNX AND CONTIGUOUS STRUCTURES.

UNDER THE CHARGE OF

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Ethyl Bromide in Operations in the Nose and Rhinopharynx.

In removing adenoid vegetations, Calmettes and Lubet-Barron very highly recommend (*Gaz. Hebd.*, August 23, 1890) anæsthesia under ethyl bromide and excision with the trianguloid ring-knife of Moritz Schmidt.

In operating upon posterior turbinate hypertrophy Dr. A. E. Prince, of Jacksonville, likewise extols anæsthesia by ethyl bromide (*N. Y. Med. Journ.*, August 30, 1890). He uses a pair of slender gouge curved turbinate forceps passed through the inferior meatus. The extremity of the forceps is controlled by a finger passed through the mouth, and the mass is removed by a torsion movement which partly cuts the morbid tissues and partly tears them.

Suppuration of the Maxillary Sinus.

Dr. Moreau R. Brown, of Chicago, who has had an unusually large experience in these cases—nineteen cases within eighteen months—recommends (*N. Y. Med. Journ.*, July 19, 1890) penetrating the most dependent portion of the antrum immediately above the alveolus or through its upper portion. He either divides the mucous membrane, or excises a small section with a tubular knife just below the gingivo-labial fold between the upper portions of the roots of the second bicuspid and the first molar teeth. A drill, best propelled with an electric motor, is entered at the point of incision and is directed upward, inward, and slightly backward, so as to form an angle of about 45 degrees with the plane of the alveolus. After thorough cleansing, a gold tube is so fitted for drainage that its distal end will just enter within the antrum, and the projecting extremity carries a small strip of

gold which is fastened to a collar around the tooth. This affords free drainage without any necessity for plugging the tube to prevent access of foreign substances into the antrum. Dr. Brown has found that ten of his cases thus treated have invariably done better than those in which an opening had been made through the alveolus from below.

Erysipelas of the Pharynx and Larynx.

According to Dr. Massei (*Rev. Gén. de Clinique*, etc., August 20, 1890), erysipelas of the pharynx and larynx can be diagnosed by three symptoms: 1. Swelling of the mucous membrane of the base of the tongue, the epiglottis, and the ary-epiglottic folds, producing dysphagia. 2. The mobility (diffluence?) of this swelling, which, by its rapid production and its no less rapid subsidence, renders the functional symptoms equally evanescent. 3. The temperature and fever, which are those of erysipelas.

Differential diagnosis from neuralgic angina is facilitated by the simultaneous or consecutive localization of the disease in the pharynx and larynx.

Massei also distinguishes two forms of erysipelas, *i. e.*, primitive and consecutive, the latter being a complication of migratory pneumonia, or an accidental development in adynamic subjects.

The treatment consists in ice internally and upon the integument; pulverizations of corrosive sublimate 1 : 2000; tracheotomy, when indicated by serious complications.

Pharyngeal Syphilis Fatal by Ulceration of the Internal Carotid Artery.

Dr. V. Raulin reports (*Annales de la Polyclinique*, July, 1890) from Moure's clinic, a case of syphilis of the pharynx in a male cook, twenty-two years of age, which progressed to denudation of the bodies of the upper vertebra, and terminated suddenly by hæmorrhage. Four years previously, the patient had had a chancre which healed very quickly, and which had been accompanied by bilateral suppurative adenitis. Though not submitted to mercurial treatment, there had been no mucous patches, roseola, or alopecia. Minute inspection failed to reveal any other sign of syphilis than the pharyngeal lesion. The disease was believed to be an example of a tardy manifestation of hereditary syphilis; an opinion supported by the history of the death of all his brothers and sisters, seven in all, at the ages of four, five, six, and seven years.

Electro-caustic Amygdalotomy.

In an elaborate article, well supported with statistical references, on hæmorrhage after amygdalotomy (*N. Y. Med. Journ.*, August 30, 1890) Dr. Jonathan Wright, of New York, condemns the operation in adolescents and adults, in whom severe hæmorrhage is much more likely to occur, and extols it in the cases of children, in whom the danger is practically nothing. We would simply remark in this connection that very serious hæmorrhage does occur at times in young children, and when it is severe is more difficult

of arrest by topical measures than in adolescents and adults. Dr. Wright proposes section of the tonsil with an amygdalotome, the cutting blade of which is an incandescent wire heated by the electric current. Taking Mackenzie's amygdalotome for adaptation, he removes the steel blade and substitutes one made of compressed paper, a non-conductor, with its extremity excavated in the form of a crescent across which the platinum wire is stretched. By means of copper wires inlaid along the sides of the blade, the platinum wire is connected with binding screws at the other end of the instrument, where, by means of the ordinary spring, the circuit from a cautery battery is closed by the pressure of the thumb as the blade is driven against the mass included in the loop of the instrument when adjusted.

Carcinoma of the Œsophagus, with Involvement of the Twelfth Dorsal Vertebra.

Drs. James Finlayson and Joseph Coats report (*Glasgow Med. Journ.*, September, 1890) a case of cancer of the œsophagus involving the left recurrent laryngeal nerve in a male subject fifty-six years of age. He had aphonia and paralysis of the left vocal band, cough and expectoration, aphagia as to solids and great dysphagia as to liquids. There was severe pain in the abdomen which could not be accounted for.

After death a small tumor, partly ulcerated, was found in the anterior wall of the œsophagus about the level of the bifurcation and firmly adherent to the parts in front, where it was continuous into a bulky mass involving the root of the lung and involving the left recurrent laryngeal nerve. The intrinsic muscles of the left half of the larynx were distinctly atrophied. There was a second tumor almost replacing the substance of the body of the twelfth dorsal vertebra and projecting beyond the inter-vertebral cartilages. The spinal canal was reduced to a diameter of three-sixteenth inch.

Perichondritic Abscess of the Larynx without the Usual Symptoms.

Dr. David Newman, of Glasgow, records (*Glasgow Med. Journ.*, September, 1890) an interesting case of laryngeal perichondritis in a previously healthy female, forty-five years of age, which terminated fatally about two months after the initial manifestations, which were rigors, soon followed by slight sore-throat, in its turn gradually increased to hoarseness, inspiratory dyspnœa, and cough. Œdema of the mucous membrane of the arytenoid cartilages and of the ventricular bands left an exceedingly narrow chink for respiration. There was great cardiac debility. Against the advice of her attendant, the patient left the hospital when somewhat relieved. Subsequently she had several severe attacks of paroxysmal dyspnœa, probably due to laryngeal spasms. The cardiac debility increased, and death ensued quietly without any signs of dyspnœa.

At the autopsy the posterior surface of the cricoid cartilage was found eroded a little to one side; and immediately below the vocal band of the opposite side was an opening leading into a small abscess cavity which reached down the trachea for about half an inch.

There had been no pain on glutition, no enlargement of cervical lymphatic glands, no swelling in front or around the larynx, no pain on external palpation of the cartilage, and no expectoration or accumulation of purulent products; consequently no symptoms indicative of the character of the disease, which, however, indicated some serious deep-seated inflammation by reason of the hoarseness, the œdema, and a somewhat stridulous cough.

DERMATOLOGY.

UNDER THE CHARGE OF

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Koch's Treatment of Lupus at the Vienna General Hospital.

Kaposi, of Vienna (*Medical Press and Circular*, February 4, 1891) showed thirty-two cases of lupus that had been treated by the injections, many of which had remarkably improved in appearance at first, as is always the case after inflammation (as after erysipelas). Attention was called to the similarity of the process with that of inflammation and exudation, the so-called necrotic action of the fluid being denied. When in Berlin, Kaposi stated to Koch that he did not believe, from what he had seen, that lupus could be cured in six weeks, and his subsequent observations have confirmed these views, for from the above thirty-two cases not one is cured, after more than six weeks' treatment. Many have ceased to react to even very high doses of the fluid. In some cases the amelioration of the symptoms having passed off, the lupus nodules have again become very distinct, and in one case nodules have appeared weeks after the treatment in places where there were none before. One case of anæsthetic (macular) leprosy reacted to an extraordinary and intense degree, being converted into a kind of tubercular leprosy; in fact, the condition of the patient was undoubtedly aggravated by the injections. Bilroth has only had one really striking case, a patient with actinomycosis, who very much improved under the treatment, and for whom there were entertained hopes of a permanent recovery. Schrötter presented a case of tubercular laryngitis which had been made much worse by the treatment.

Koch's Fluid in Lupus.

Thibierge (*British Journal of Dermatology*, January, 1891) of the St. Louis Hospital, Paris, gives a full report of the results of this treatment as observed by himself in Berlin. While fully acknowledging the enormous

diagnostic importance of Koch's discovery and its influence on tubercular tissue, Dr. Thibierge says plainly that as far as lupus is concerned, there was not one single case amongst all those which he could see in Berlin which had been even *apparently* cured by the injections. In every case which he had examined, some of which had been injected for two months, the little round apple-jelly or barley-sugar nodules in the corium were still present, and would prevent any experienced dermatologist from regarding the case as cured. Thus, in one case of extensive lupus of the face which had undergone eleven injections, the last three being of the strength of two centigrammes, and which was presented as a cure by the assistants in the clinic, because no further local reaction could be produced, nodules could be plainly seen when the superjacent hyperæmia was removed by stretching the skin between the fingers. Another case, a woman, who had been subjected to sixteen successive injections between October 11th and November 26th, presented no local or general reaction after the thirteenth injection, even though the doses in the last injections had been as high as 14, 20, 30, and 40 milligrammes. In spite of the treatment a number of very evident lupus nodules could be still seen lying in the supple cicatricial tissue, which had replaced the previous lesions. Much of this misplaced enthusiasm was due to dermatological inexperience, these cases having been treated in the ordinary surgical clinics. Extraordinary and perfectly unique as is the power of the injected fluid to cause the shrivelling up and destruction of lupus tissue, up to the present time it seems to have failed to completely eradicate this disease in any one single well-authenticated case.

KÖHLER, of Berlin (*Medical Press and Circular*, February 4, 1891), exhibited two cases of lupus before the Free Society of Surgeons that had been under treatment for three months. The first was a case of lupus of the nose, upper lip, both cheeks, and lower jaw. The alæ of the nose showed the ulcerating form. On injection the general and local reaction was great. Tubercle bacilli were found in the crusts. From October 20th the patient had received 730 milligrammes of the fluid, and since November 20th there had been absolutely no reaction. The healing on the alæ of the nose, where ulceration had existed, was an ideal one. Other localities did not respond so well, redness still remaining.

The second case was a disease of fourteen years' duration. First injection October 11th. The total quantity injected was 1240 milligrammes, the largest dose being 110 milligrammes. No reaction since November 3d. Healing took place with redness and scaling. This case does not seem to have resulted so satisfactorily as the first, and, as Dr. Köhler remarked, neither case could be considered as entirely cured.

OBSERVATIONS ON THE QUESTION OF DUHRING'S DISEASE.

HANS VON HEBRA (*Monatshefte für prak. Dermatologie*, Bd. ix., No. 6) calls attention to the fact that Auspitz, in his *System of Skin Diseases*, described Duhring's disease under the title of "erythema neuriticum," among the "inflammatory tropho-neuroses with irregular course," and that Hebra, Jr., himself, also described the disease in his treatise (a year before Duhring) as erythema neuriticum, herpes, and pemphigus neuriticus, chiefly with the view

of distinguishing it from pemphigus. The author does not wish to detract in any way from the light thrown upon the disease by Duhring and Brocq. Concerning the nomenclature, Hebra sees no objection to the use of the old term "Hydroa," as proposed by Unna.

Dermatitis Herpetiformis.

W. Allan Jamieson (*Edinburgh Medical Journal*, January, 1891) gives an interesting article on this disease, with a short account of seven cases, two of them being in children aged two and a half and three years respectively. But the notes of these two cases are not sufficiently clear or full to portray the disease satisfactorily, which is to be regretted, as typical cases have not been reported in children. The author agrees with Duhring, Brocq, and Unna, that the disease is a substantive one, and goes even further than the authors cited in regarding the impetigo herpetiformis of Hebra and Kaposi as a pustular variety of dermatitis herpetiformis. The best results in treatment have been obtained from moderate doses of arsenic, but no detailed report of the action of the remedy is given.

Observations on Prurigo, Clinical and Pathological.

R. W. Taylor and Van Giesen (*New York Medical Journal*, January 3, 1891) go into the subject very thoroughly, and conclude that there is a chronic inflammation of the derma in this disease, most extensive just below the pars papillaris, although the latter, with its papillæ, is also affected in places. It is of the chronic cellular variety, produced by a proliferation of the connective-tissue cells just about the bloodvessels. The hair follicles, sebaceous glands, and smooth muscle fasciculi become changed secondarily, and are not the primary or essential lesions of the disease. They epitomize the disease, succinctly, as follows: Prurigo nodules and papules are due to a circumscribed effusion in the deeper derma or papillæ, which soaks into the rete and produces cysts, which may subsequently atrophy, and is accompanied by a chronic cellular inflammation in the derma with secondary alterations in the hairs, sebaceous glands, and smooth muscle bundles, and hypertrophic regions in the epidermis.

A Case of Rhinophyma—Operation.

Ohmann-Dumesnil, of St. Louis (*St. Louis Clinique*, October, 1890), reports, with photograph, a case of highly-developed rhinophyma, or hypertrophy of the nose, occurring in a man seventy years of age. The disease began as acne rosacea, caused by indulgence in spirits, and during the last five years rapidly passed into the condition known as rhinophyma. The end of the nose became lobulated and so much enlarged and hypertrophied as by its weight and pressure upon the nostrils to cause difficulty in breathing. Operative interference was demanded, and ablation of the entire mass by the knife was performed, as follows: The lobes of the tumor mass were removed, leaving a small flap of the integument of each in order to cover the denuded surface. This flap in each case was derived from the lower part

and laid up, so as to bring the line of stitches at about that portion of the nose which would correspond to the sulcus of each ala. In the case of the middle lobe, of course, the line of sutures was directly across the nose. The dissection of the skin flaps was carefully done so as to have as thin an integument as was consistent with the nutrition of the parts. Healing occurred *per primam*, the dressing having been iodoform collodion." The final result, on the whole, was satisfactory. The author calls attention to the importance of allowing for the contraction of the integument as well as of the scar in such cases. The microscopic examination of the growth agreed, in the main, with that given by authors.

OBSTETRICS.

UNDER THE CHARGE OF

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The Use of Koch's Lymph in Nursing-children.

Epstein (*Prager medicinische Wochenschrift*, No. 2, 1891) has made injections of Koch's lymph in a number of infants, and summarizes his observations as follows: Five children who were either suffering from tuberculosis or seemed strongly predisposed to it, showed a peculiar painful œdema, as large as a silver dollar, at the site of the injection, which usually disappeared in six to eight days. Suppuration never occurred, but the skin showed a pale reddish infiltration which seemed to be a direct reaction to the injection. As regards the general effects, a rise of temperature began five or six hours after the injection, and persisted a longer time than is usual in the case of adults. In one case, fever persisted for four days. The general condition of the children was somewhat disturbed by the restlessness and prostration which always accompany an elevated temperature; pronounced symptoms, however, of some effect upon the nervous system were wanting. Regarding dosage for children under three years of age, one-tenth of a milligramme was given, and in some instances, one-twentieth. As a means of diagnosis, Epstein considers that the lymph has a positive and decided value among children.

Gun-shot Wound of the Pregnant Uterus, with Recovery.

Bradley (*Southern Medical Record*, No. 2, 1891) describes the case of a primigravida six months pregnant who shot herself, the ball entering four inches to the right, and on a line with the umbilicus. When first seen, she was suffering but very little from shock. She was anæsthetized with chloroform, and the wound was found to be a penetrating one. She was sitting in

a low rocking-chair when she attempted suicide, the pistol being held close to the body. A probe could be passed between the muscles to Poupart's ligament. Upon laparotomy, the abdomen was found filled with blood and clots, and a ball-wound was found to the right side of the fundus of the uterus near the attachment of the Fallopian tube. This wound was closed by sutures, no wound of exit for the ball being found. About twenty-four hours after the injury was received, the patient aborted with a six-months' fœtus. The fœtus had a ball-wound just behind the acromion process of the scapula, another above the umbilicus, and the right leg was shattered below the knee. The patient recovered in four weeks from the time of the injury.

Congenital Narrowing of the Vagina and its Influence upon Labor.

Kleinwächter (*Prager medicinische Wochenschrift*, No. 48, 1890), reviewing the literature of this subject and describing cases observed by him, concludes, regarding the treatment of labor in such a condition, that interference should be deferred as long as possible, finding, in thirty-eight cases, that labor proceeded normally in thirteen; in ten cases it was necessary to make multiple incisions, when labor resulted spontaneously. In four the forceps was used; in nine cases multiple incisions did not avail to secure the delivery of the patient, and the forceps was used in addition. In seven cases dilatation was practised during pregnancy, labor resulting spontaneously in only three of these. The conclusion reached was that a serious operation is very rarely demanded in these cases.

Pathological Dentition.

An able plea for incision into the gums in cases of pathological dentition appears in the *Annals of Gynæcology and Pædiatry*, January, 1891, from the pen of Dr. J. W. White. He shows conclusively the unquestioned indication for incising the gum over the tooth in many cases, and cites convincing proof of the immediate relief which follows such a procedure. The incision should vary somewhat with the shape of the tooth which it is destined to liberate; thus, over an incisor the cut should be a simple linear one, while over the molars a crossed incision is better.

Lysol, a New Antiseptic, and its Use in Obstetrics.

As an improvement upon creolin, Michelsen (*Centralblatt für Gynäkologie*, No. 1, 1891), describes his experience in the use of lysol, a preparation of oil of tar. This is a brownish-yellow-colored, oily fluid, smelling faintly of creasote and remaining perfectly clear when diluted with water. A peculiarity of this substance is the fact that it does not make an emulsion with water as does creolin, but a clear solution results when it is mixed with water. Bacteriological tests show it to be as efficient as carbolic acid and creolin. Michelsen has tried this substance in gynecological operations and also in obstetric practice. He finds that in solutions varying from one to five per cent., this substance gave satisfactory results. Its ready solubility, clear color, and freedom from disagreeable odor make it a very convenient antiseptic. So far, no instances of poisoning have attended its use.

The Results of Enlargement of the Lymphatics in Puerperal Septic Infection.

Souligoux (*Bulletin de la Société Anatomiquede Paris*, p. 523, 1890), draws attention to the result of enlargement of the lymphatic ganglia in puerperal sepsis. He finds that many of the pelvic pains complained of after this infection are caused by pressure of the enlarged ganglia upon nerve-trunks. The usual function of these bodies is well illustrated in sepsis by their absorption of the septic virus, and the fact that in severe cases a tendency to the formation of abscesses in the ganglia is observed.

Epilepsy Produced by Injury with the Forceps.

It is rare that epilepsy can be traced distinctly to an injury produced by forceps, but in a case reported by Lane (*Lancet*, p. 139, 1891), a boy sixteen years old was found to be suffering from pronounced epilepsy apparently caused by an injury to the skull produced by forceps. On examination, there was a groove about three and one-quarter inches long, extending from an inch behind the right coronal suture to about the same distance in front of the lambdoid. Its anterior extremity was above the auditory meatus, its lower limit at the temporal ridge. The floor of the groove seemed a quarter of an inch below the scalp; the left arm was weaker than the right, and its movements defective. The left leg was also of deficient power. A clonus could be produced by raising the left foot, and the reflexes were much exaggerated. The optic discs were normal, the pupils reacted normally, and no evidence of syphilis existed. Lane raised the depressed area of bone, which was exceedingly vascular. The bottom of the depression encroached upon the area of the skull. The *dura mater* was normal, and also the brain beneath. Rapid amelioration of the symptoms followed the operation, giving rise to the hope that ultimate recovery would ensue.

Concealed Accidental Hæmorrhage during Labor.

A fatal case of concealed hæmorrhage is reported by Coe (*American Journal of Obstetrics*, February, 1891). The patient was a primipara of nervous temperament, the fœtus being in normal position and presentation. The first stage of labor was delayed by inefficient pains and by the patient's nervousness. She complained of constant pain in the lower part of the abdomen. She had a slight hæmorrhage when dilatation was half completed. On examination, the os was found half dilated, the head engaged, the membranes intact. The pains had become true labor-pains. On palpation, the uterine tumor was larger and softer than previously; fœtal parts indistinct. The patient's pulse was accelerated; she felt weak. The fœtal heart could not be heard, and speedy delivery seemed indicated in the interest of the child. While the patient was using a commode, she had a profuse hæmorrhage. Strong pains began, the membranes were ruptured, the head descended rapidly. As the pulse grew weak, the forceps was applied, and a large, dead child delivered. The placenta was expressed, followed by large clots and a pint of fluid blood. Uterine inertia followed, with very weak

pulse and death from heart-failure. While Coe expresses no positive opinion regarding the exact mode in which the hæmorrhage occurred, it seems probable to him that when the patient assumed the upright position upon the commode, the placenta was largely or wholly detached. It was noticed that the placenta was the seat of general fatty and calcareous degeneration. Unfortunately, it was not minutely examined.

GYNECOLOGY.

UNDER THE CHARGE OF

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Hæmatocele and Hæmatoma.

Veit, in a paper (*Med. Anzeiger zum Centralblatt für die ges. Medicin*, 1890), on this subject read before the last International Medical Congress contends for a more exact diagnosis between intra- and extra-peritoneal hæmorrhage. An effusion of blood within the healthy peritoneal cavity never becomes encysted; if the bleeding ceases the blood is absorbed, if it continues death results. In order that a true hæmatocele may be formed either the effused blood must be encapsulated or slow bleeding must occur into a cavity already formed by adhesions, as is usually the case in extra-uterine gestation.

The diagnosis of free hæmorrhage into the peritoneal cavity rests upon the presence of the usual signs of profound anæmia and not on physical signs, since nothing pathological can be palpated; the differential diagnosis between hæmatocele and hæmatoma, on the other hand, is not usually difficult, as a tumor is always felt. When the former condition is suspected the abdomen must be opened at once.

Landau, in discussing this paper, denied that the recognition of a considerable quantity of free blood within the peritoneal cavity was difficult; dulness of the abdomen on percussion would give a clue to this condition. While it was true that blood effused within the normal peritoneal cavity did not coagulate and consequently tended to become absorbed so long as it was in contact with living epithelium, coagulation would take place as soon as the epithelial layer was destroyed at any point; this might occur from the irritation caused by the stagnating blood itself. As soon as coagulation took place, the formation of pseudo-membranes and encapsulation would follow.

Observations on Thure Brandt's Method.

Landau (*Ibid.*) says that we are most indebted to Brandt for his improved method of pelvic examination, which leads to more accurate diagnosis by

educating the muscular as well as the tactile sense. The examiner learns to palpate the patient in different postures, while he himself changes his position from side to side as may be required, not confining himself to the foot of the table. The danger in these manipulations lies in cases of inflammatory trouble, but as the patient is not etherized her pain will serve as a ready guide as to when the examiner has gone too far. By studying this method we learn the finer points in diagnosis, the most important of which is the variable consistence of pelvic enlargements. Thus, by becoming perfectly familiar with the manner in which the empty uterus contracts under bimanual pressure we learn to distinguish the difference in its behavior when it is the seat of a myoma or of metritis; in the former case it contracts irregularly, in the latter it does not contract at all. Again, the spontaneous changes which take place in diseased adnexa are recognized by such careful examination—such as the filling and emptying of distended tubes. He believes that gynecologists have too much faith in the information which can be gained by a single examination of a patient under an anæsthetic.

In discussing the paper Skutsch denied that gynecologists had learned palpation from Brandt, since the latter made no essential departure from the ordinary methods of examination. No one but an expert ought to practise pelvic massage.

Kugelmann stigmatized massage as "a sort of onanism."

Landau, in reply, explained that he meant that repeated careful examination of a patient, according to Brandt's method, not anæsthetized, was attended with less danger than a single examination under chloroform. The proof that the usual methods of examination were not always so satisfactory was shown by the frequency with which the text-books recommend the use of an anæsthetic.

The Treatment of Uterine Fibromata and of Salpingo-oöphoritis by the Constant Current.

Gautier (*Ibid.*) has treated ninety-five cases of fibroid with galvanism with the best results. He is firmly convinced that the positive pole has a caustic action upon the endometrium, which opinion he has confirmed by microscopical examinations. Eight patients with pyosalpinx were treated by galvano-puncture, a mild current of twenty to thirty milliampères being used, and in each instance the pus was absorbed, pain was relieved, and laparotomy (which had been strongly advised) was rendered unnecessary. He prefers galvano-puncture in cases of fibroma, and denounces extra-uterine galvanization as based upon an erroneous theory and without positive results.

In discussing this paper Brŏse laid down the following rules for procedure: 1. The physician who essays to practise the galvanic treatment must be familiar with the principles of physics and electro-therapy, as well as with gynecology. 2. Intra-uterine galvanization is alone to be employed in cases of fibroma, endometritis, and pelvic exudation; the use of the vaginal electrode should be discarded, at least when strong currents are employed, since extensive ulceration may be produced. 3. Patience on the part of both physician and patient are required in the treatment of fibromata, since it

may extend over several months. 4. The deeper the uterine cavity, the more difficult it is to check the hæmorrhages, and the operator should at the outset ask himself whether the patient's strength will hold out during the three or four months which may be required, or whether it would not be wiser to perform myomotomy at once. 5. The galvanic treatment will never entirely replace myomotomy, but it will render the operation unnecessary in many cases. It is possible that the cure might be hastened by a combination of curetting with intra-uterine galvanization. 6. The most gratifying results are obtained in the treatment of perimetric indurations, which are often quickly absorbed; intra-uterine galvanization is preferable, the anode being used if endometritis is also present, otherwise the cathode. 7. Endometritis complicated with perimetritis is best treated in this way. 8. Dysmenorrhœa is relieved by intra-uterine galvanization, but it is not yet certain that stenosis of the cervical canal can be permanently overcome in this way.

Trendelenberg's Posture for Gynecological Examinations.

Stroynowski (*Centralblatt für Gynäkologie*, January 19, 1891) thinks highly of the advantages of this posture in examinations of the pelvis, as well as in laparotomy, especially in certain cases in which the diagnosis is obscure. In a case in which the presence of free fluid in the peritoneal cavity made it impossible to mop out the pelvic organs with the patient on her back, she was placed in Trendelenberg's posture, the fluid gravitated to the upper part of the abdomen, and it was then possible to feel the uterus and adnexa without difficulty. A similar course was followed in cases of intra-ligamentous cyst and subperitoneal fibroid in the utero-vesical pouch. So that now the writer invariably adopts this method of examination in difficult cases. He has met with objections to the posture in private practice.

The Treatment and Curability of Carcinoma Uteri.

In a paper with this title (*Münchener med. Wochenschrift*, 1890, Nos. 42 and 43) Hofmeier questions if the introduction of total extirpation of the uterus for cancer of the cervix has proved to be a decided advance in the treatment of the disease. In support of his position he cites the statistics of different German operators, showing that Kaltenbach reports 30 per cent. of his patients free from recurrence one year after operation, Martin 41 per cent., Olshausen 47.5 per cent. at the end of two years, and Schauta 47.3 per cent. He criticises the statistics of the Munich clinic—64.4 per cent. without recurrence two years after operation—since they are the same as those claimed by Leopold in 1887. Attention is called to the slight favor with which total extirpation is regarded in England and America, as compared with its popularity in France and Russia. The results obtained by Byrne by the use of the galvano-cautery (77 per cent. cured at the end of two years), and the combined results of Schröder's operation at the hands of Pawlik and the writer, are also alluded to.

The statistics of high amputation by Schröder and Hofmeier (45.2 per cent. free from recurrences after two years) corresponds closely with those of total extirpation, and therefore show that the radical offers no decided advan-

tage over the partial operation. In both classes of cases it appears that nearly 50 per cent. of the patients in whom the diagnosis was made in the incipient stage of the disease were well two years after operation.

The writer next discusses the question whether it is a fact that the upper segment of the cervix is affected in cases of commencing epithelioma of the portio vaginalis. If this were true, total extirpation would invariably be indicated, but, in his opinion, this has not been satisfactorily proved anatomically.

PÆDIATRICS.

UNDER THE CHARGE OF

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EXTERNAL PARALYSES FOLLOWING DIPHTHERIA.

HAUSEMAN'S (*Rev. Mens. des Mal. de l'Enf.*, 1890) paper is unique in being a careful record of phenomena attending and following diphtheria in his own person. A severe attack of diphtheritic angina began June 19, 1887, false membrane covering both tonsils, the velum palati, the posterior wall of the pharynx to the entrance of the larynx, the œsophagus, and the nasal cavities. The temperature reached 104° F., and there was much albumin in the urine. The disease lasted four weeks. The first symptoms of paralysis were felt upon the right pillar of the velum on the eighteenth day. For the next few days there was much disturbance of sensibility. Then came a feeling of formication in the tongue which gradually increased, then inability to move the tongue freely, and finally total anæsthesia and paresis of the organ. Nervous troubles in other parts developed in a similar manner. Paræsthesia was absent only upon the velum and the top of the larynx. Following the paralysis of the tongue there was paralysis of the buccal mucous membrane, the lips, the cheeks, and then the whole figure. There was paresis of the mimicking muscles and the masticating muscles of the face. The senses of smell and taste lost their acuteness, but sight and hearing were unaffected. In the fifth week the second and third branches of the trigeminal were attacked, the facial, the glosso-pharyngeal and the hypo-glossal, then the vagus and the spinal accessory in the branches supplied to the larynx and œsophagus. The vagus of the heart and intestine was not involved, though there was at times acceleration of the pulse, with partial syncope. In the eighth week the upper extremities, the trunk, and the lower extremities were invaded, with the same succession of symptoms. There was no severe pain, but every day there were general malaise, intellectual depression, insomnia, and a sensation of heat but no rise of temperature. Paralysis of the external

oculo-motorius caused diplopia and crossed images, involvement of the common oculo-motorius caused pupillary paresis and disappearance of a pre-existing myopia due to fault of accommodation. As to the hands, there was athetosis, but not if the will were brought into action to prevent it. The paralytic phenomena were at their maximum in the middle of the third month, at which time, however, there had been an improvement in the condition of the pharynx and face. Convalescence was established in the fourth month. The only treatment consisted in a tonic regimen. Massage was painful and hydro-therapy inefficacious. From this minute auto-observation the author concluded that two paths are to be distinguished along which the diphtheritic virus is propagated; one includes, by metastasis, the lymphatic and blood streams by which the disease reaches the heart, kidneys, and joints, the other is the track of the nerves, the virus progressing, by contiguity, from one nerve to another. The diphtheritic paralysis is probably a toxic neuritis without characteristic anatomical modification.

The Epidemic of Grippe in Children.

Comby (*Rev. Mens. des Mal. de l'Enf.*, 1890) reports that of 218 children affected with this disease seen by him in the recent pandemic, 124 were girls and 94 boys. The youngest of these was seventeen days old, the oldest fifteen years; 48 were under two years of age, 76 from two to five years of age, and 94 from five to fifteen.

Forty per cent. of the children in Paris were affected with the disease. Apart from the general epidemic influence no particular cause could be attributed. The disease is evidently infectious, the germs being diffused by atmospheric currents. Its contagiousness is not clearly established, though it is probable. Relapses were not infrequent; recurrences during the same epidemic were not usual. The pathogenic germ of the disease has not been isolated, though in the concomitant diseases the pneumococcus was found with pneumonia, the streptococcus with otorrhœa, and the staphylococcus in the vesicles of labial herpes. The principal symptoms were referable to the nervous, the digestive, and the respiratory apparatus. At the beginning there was sharp headache for a day or two in the frontal region radiating to the orbit, and accompanied with photophobia. There were also restlessness, insomnia, and, in a few cases, nocturnal delirium. Convulsions occurred in only three cases. Then there were pains in the back, chest, and knees, less frequently abdominal pain, gastralgia, or enteralgia. After the disappearance of the nervous prostration, muscular weakness and anæmia continued a long time. In 98 cases there was vomiting, and in 38 nausea alone. In only 18 cases was there diarrhœa, constipation being the rule. Fever was constantly present, but showed no well-defined cycle. It usually began with a feeling of chilliness. The pulse was regular, frequently reaching 150 to 160 per minute. The urine was red, acid, contained water, but no sugar or albumin. Cough was present in a third of the cases, being usually due to pharyngitis or laryngo-tracheitis, rarely to bronchial catarrh. Coryza was present in 63 cases, epistaxis in 18, epiphora in 23. There were but few cutaneous manifestations, including labial herpes, urticaria, sudoral erythema, roseola, scarlatiniform erythema, and morbilliform erythema, and these in only a

very small number of cases. Desquamation was not seen in a single case. Complications of the respiratory organs were few and benign, bronchitis appearing in 18 cases, and broncho-pneumonia in only 1. In 14 cases there was ocular disturbance, including 5 cases of simple conjunctivitis, 1 of hæmorrhagic conjunctivitis, 4 of vesicular conjunctivitis, 11 of vesicular keratitis, 3 of double keratitis. In 13 cases there was otitis media. There was also 1 case of tibio-tarsal arthritis, and 1 of catarrhal icterus. In general, there was an absence of grave complications in almost the entire series of cases. The period of incubation of the disease could not be determined. Its invasion was usually brusque, the febrile period averaging three days. Convalescence was usually of long duration. The following degrees of the disease were observed, which can hardly be considered as distinct forms:

1. The attenuated form, which was seen in 26 cases. The patient might be able to go about, but there was usually a temperature as high as 101.3° F.

2. The average form, which was characterized by decided febrile action, and intense pain. The patients usually remained in bed from one to ten days.

3. The grave form, which was seen in only four cases, and was characterized by high fever, great prostration, delirium, restlessness, and typhoid or meningitic phenomena.

In only one case was there a fatal issue. The diagnosis was usually easy, though in certain cases it was necessary to exclude variola, rubeola, scarlatina, typhoid fever, and meningitis.

For medicaments, quinine and antipyrine were chiefly used, also purgatives and emetics. When particular indications for other drugs arose, they were met as each case demanded. In addition, rest, light diet, and during convalescence tonic and reparative agents were used.

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